The Journal of the
American Medical Association

VOL. XXIII. CHICAGO, OCTOBER 20, 1894. No. 16.

ORIGINAL ARTICLES.

DIET IN BRIGHT'S DISEASE.

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The diet in the management of a case of Bright's disease of the kidneys is a very important feature. It would seem as nitrogenous ingesta in great part undergo metamorphosis and yielding their nitrogen to be carried off in combination with a portion of other elements under the form of urinary products, that a non-nitrogenous diet or one approximating it is the proper food in this disease.

The experiments of Schmidt show that the amount of urea passed in the urine is related to the quantity of food ingested, the nature of it remaining the same.

He found that when a cat ingested 44.188 grammes of meat daily, that the amount of urea excreted per kilogramme, body weight, was 2.958;

46.154 grammes were ingested;				3.050 grammes of urea were excreted.				
75.938	"	"	"	5.152	"	"	"	"
108.755	"	"	"	7.663	"	"	"	"

It will be seen that when the cat was living on flesh diet that the kidneys excreted on an average 6.8 parts urea for every 100 parts of meat consumed, and that the great bulk of the nitrogen belonging to the food ingested passed out of the system in the form of urea. If all the nitrogen was excreted by this way the quantity of urea would amount to 7.88 per cent. of the weight of the meat; the nitrogen contained in 100 parts of flesh corresponding with that contained in 7.88 parts of urea. But there were 6.8 parts of urea produced instead of 7.88 parts, which may be spoken of as representing the actual equivalent, as far as contained nitrogen was concerned, of a 100 parts of flesh.

Lehman states from observations made on himself when he ate animal food wholly, that about five-sixths of the nitrogen ingested was found in his urine in the form of urea.

From the foregoing observations it must be admitted that nitrogenous matter undergoes metamorphosis within the system. It must also be admitted that nitrogenous matter must undergo changes in the system rapidly, as it has been found that the amount of urea excreted by the kidneys is quickly affected by the quality of the food ingested. Lehman also found that when he had breakfasted exclusively on animal food that his urine was so rich in urea as to throw down a copious precipitate of the nitrate on the addition of nitric acid.

In Dr. Parkes' observations on two soldiers, A and B, he also found that a change in the food ingested soon affected the quantity of urea excreted. These men were kept the first, second, third and fourth days on a regulated mixed diet; the fifth and sixth days on a non-nitrogenous diet, the seventh, eighth, ninth and tenth days on a mixed diet, the eleventh and twelfth days on a non-nitrogenous diet, and on the thirteenth, fourteenth, fifteenth and sixteenth days on a mixed diet. A, during the first four days on a mixed diet excreted 35 grammes of urea as the daily mean. The fifth and sixth days on a non-nitrogenous diet, 20 grammes and 13.52 grammes respectively. On the seventh, eighth, ninth and tenth days on a mixed diet he excreted 20.67, 25.68, 26.29 and 29.67 grammes of urea respectively. On the eleventh and twelfth days on a non-nitrogenous diet he excreted 19.12 and 15 grammes of urea respectively, and lastly, on the thirteenth, fourteenth, fifteenth and sixteenth days on a mixed diet he passed the first day 20.8, second 26.36, third 28.32 and fourth day 30.10 grammes of urea. B, who was a much smaller man, the mean for the first four days on a mixed diet was 25.92 grammes of urea passed. During the fifth and sixth days on a non-nitrogenous diet the urea excreted was 17.3 and 12.65 grammes respectively. On the seventh, eighth, ninth and tenth days on a mixed diet the urea excreted 14.40, 23, 25.20 and 22.99 grammes respectively. On the eleventh and twelfth days on a non-nitrogenous diet he voided 16 and 13.20 grammes of urea respectively. Lastly, on the thirteenth, fourteenth, fifteenth and sixteenth, days on a mixed diet the urea passed was 23, 24.36, 24.57 and 21.36 grammes respectively.

The above observations show that urea excreted by the kidneys was increased or diminished according as nitrogenous or non-nitrogenous food was ingested.

Mahomet, age 22, and weight 165 pounds, who had been living on an ordinary mixed diet, conducted two experiments on himself with a view to obtaining more precise information with regard to the time required for metamorphosis of nitrogenous matter to occur and to lead to an increased elimination of urea. In order to do this, he took his dinner of mixed food as usual at 1:30 P.M., April 16, 1871. From this time, so as not to suffer too much from want of nitrogenous food, he restricted himself to tea, sugar, butter, arrowroot and rice, the latter being the least nitrogenous of the natural food products. This diet was continued throughout the 17th, and at 8 A.M. on the 18th he took four eggs so as to supply nitrogenous matter. By the following morning it would be expected that the urea excreted would be at a low point when a meal was taken of meat diet.

Under a restricted diet the urea steadily decreased from 21 to 9.05 grains per hour. After eating the eggs the urea readily increased within the next four hours to 13.82 grains, and during the remainder of the day the urea only underwent a little further increase. The following morning the urea had decreased to 10.62 grains per hour, then after eating plentifully of beefsteak at breakfast the urea rose to 21.16 grains per hour, and with a repetition of meat

diet the urea continued to increase throughout the day.

During the experiment the usual bodily and mental work was performed. He noticed, however, during the restricted diet that he experienced a feeling of faintness and some increase in his appetite. Before the experiment was commenced he noticed that his urine was loaded with alkalies. During the restricted diet his urine was clear and the quantity passed was larger than when animal food was being consumed. This shows that when an increased amount of urea was excreted a less amount of urine was passed. Had the urine been increased with the increased amount of urea excreted, it might be argued that the increased amount of urea was due to the increased amount of urine passed.

In the second experiment of two days, on a very restricted diet, the urea fell from a range of 21 to 25 grains per hour to 8.87 grains per hour. At the end of two days, on the very restricted diet, nitrogenous food was taken in the form of egg and milk beaten together so absorption would take place more easily and quickly. Half an hour later an ordinary meal of cold meat was taken. During the three hours succeeding the first ingestion of nitrogenous matter, the urea excreted stood 12.43 grains per hour against 8.87 grains per hour, the mean amount for the eight hours previously.

Now in Bright's disease of the kidneys we have certain conditions to be met and ameliorated in order to benefit the patient so afflicted. It must be admitted that when the kidneys are diseased they are embarrassed by reason of having too much labor to perform and owing to their enfeebled condition, being unable to perform the necessary functions which is shown usually by a dropsical condition of the system. Reason would then dictate that the kidneys should be relieved of a part of their duties. Now from the foregoing observations we have learned that in order to diminish their labor it is necessary to prescribe for our patient so afflicted, such food as will produce the least amount of or excrete the least amount of urea. It has been shown that urea is most excreted when nitrogenous diet is ingested, and least excreted when non-nitrogenous food is ingested. It has also been shown that the bulk of the nitrogen in nitrogenous food is excreted by the kidneys in the shape of urea. The food necessary to be ingested then by a person suffering with Bright's disease of the kidneys should be principally non-nitrogenous or approximating it.

It has been shown, also, by the above observations that when non-nitrogenous diet is ingested, urea is very much decreased in quantity, and that the urine passed is clear and increased in quantity. Then it will be seen that non-nitrogenous food not only diminishes the urea excreted in the urine, but leads to an increased amount of that fluid. This being true, it must be admitted that the patient suffering from Bright's disease is doubly benefited by a non-nitrogenous diet ingested. Namely, rest to the kidneys and an increased flow of urine.

The patient with Bright's disease is also benefited by the carbo-hydrates for the reason that the cast off material from the ingestion of them is excreted by the bowels and skin and otherwise. This would also add to our armamentarium in the treatment of a case of Bright's disease. The bowels are kept more soluble, throwing off an amount of liquid that might not otherwise be excreted and they also act as a diaphoretic, passing through the skin an additional amount of fluid.

DIPHTHERIA; OUR MODERN VIEWS — ITS ETIOLOGY AND PATHOLOGY, WITH REMARKS ON THE EARLY HISTORY OF THIS MALADY.

Read in the Section on Laryngology and Otology, at the Forty-fifth Annual Meeting of the American Medical Association, held in San Francisco, June 5-8, 1894.

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In the work of Hippocrates on dentition we find the following: "*Quibus cito in tonsillis ulcera serpentia considunt, febrilis ac tussi per maneutibus, periculum est rursus esse generanda ulcera.*"

This is the first record of testimony regarding the recognition of the disease we now classify as diphtheria. Whether Hippocrates had in mind the simple apthous inflammation of the mouth or the well-defined disease itself is an open question. Suffice it to say, the above quotation is the first literature we possess upon ulcerative and exudative disease of the pharynx, tonsil, uvula, larynx, etc.

Aretæus gives us a more satisfactory clinical picture and intimates that Egyptians were quite familiar with diphtheria. Ætius, who lived some two centuries later, left a manuscript giving clear evidence that he understood diphtheria. And so we pass on rapidly to the end of the sixteenth century. It was the distinguished French physician, Baillou, who it may be truly said gives us the first accurate description of diphtheria. He speaks of a false membrane which we can scarcely mistake for anything save fibrinous exudate of diphtheria.

Ever since the day of Baillou, diphtheria has prevailed in the various quarters of the world.[1] We have the history of an epidemic of malignant angina in Paris toward the close of the sixteenth century; again we find it in Spain—as we learn from Villa Real, who studied an epidemic which raged in Spain in the early years of the seventeenth century, which he portrayed as *garotello* or more specifically *morbi suffocantis*, and which possesses without drawing the broad line of differentiation between diphtheria and the scarlatinal exudates.

Coming down to more recent times, we find such eminent observers as Dr. Patrick Blair, Schobinger, Ghisi, John Star, Huxham, Francis House, Trousseau, Samuel Bard and others engaged in the study of diphtheria. The first exact record comes to us in the form of two treatises on angina diphtheritis which were submitted to the French Academy of Medicine by Bretouneau in 1821. In these brochures he made the broad claim that an inflammation without an exudation is never diphtheria, while no inflammation with an exudation is diphtheritis, when it does not spread by contagion.

He believed that inoculation was the only means of conveying the disease from one to another, and held firmly to the opinion that the atmosphere did not act as a conveyor of the contagion. We have since modified our views regarding the spread of the contagion of diphtheria, and unfortunately the violent epidemics in France, Holland, Germany and our own country, where it raged from time to time, have

given us ample opportunity and material for the study of this feature of the disease.

It was Virchow who established the pathologico-anatomic basis upon which we have since based our investigation of the diphtheritic process. He taught us to direct our attention to the exudation in the substance of the mucous membrane, and the death of this membrane in consequence of the interference with its nutritive supply, in contra-distinction to croupous inflammation where the exudate does not penetrate the structure of the membrane but simply lies upon its surface.

There are still many who hold that diphtheria and croup are essentially similar conditions pathologically considered. Their numbers, however, are rapidly diminishing, and there seems to be little question that within the next decade we will all agree that the views of Wagner will have to give way to the more recent bacteriologic and pathologic discoveries.

Bahl considered diphtheria as a general infectious disease, entirely independent of any previously existing local disease, whose distinctive characteristic was a nuclear or cystoid growth of the submucous connective tissues which caused the death of the membrane by compressing the vessels of its vascular supply. To him the manifestation in the throat and tonsils was simply an indication, or symptom as it were, of the general infection just as the eruptive basis chose the skin as the most favorable seat of characteristic indication.

These are the views about which the profession at large are still at variance. The older practitioner, whose good judgment is based upon a large experience, is not yet ready to resign the theories in vogue during the longer period of his professional career, but there can be but one correct solution of the problem concerning the origin and character of a disease which even to-day is an almost inconquerable foe, and the weight of research prompts to the fact that we must accept and carry on the work laid out by Oertel, Huebner and Welsh if we hope to be able to cope intelligently with diphtheria. The bacillus, described by Löffler and Klebs, coupled with the study of the toxic ferment it ushers into existence, and which finds its way into the circulation, together with the pathology as Oertel has taught it to us, it seems accounts in a satisfactory way for the clinical manifestation of the disease. In other words, if I may be permitted to say it, we have only now begun to know something about the nature of diphtheria.

The etiology of diphtheria, in a great measure, is the practical lesson we have learned from the researches of Klebs, Löffler and their followers. Before the time of these observers we were apt to confound the exudative diseases of the pharynx, tonsils and upper respiratory tract. To-day we know, with almost absolute certainty, that there are two forms of this class of disease, which to the eye of the clinical observer present similar changes in the mucous membrane, inasmuch as both are characterized by the appearance of a pseudo-membrane, at times dirty white, often tinted greenish or yellow white in color. Viewed at the bedside alone, in both you will observe alike, prostration, a febrile condition, swelling of the submaxillary glands, disturbance of respiration, often slight it is true, so that a differential diagnosis, clinically, is a qualification to which few of us can lay claim. Notwithstanding this, the two are totally dissimilar. Examined bacteriologically, the exudate of one will reveal nests of bacilli which are found only in the exudate of true diphtheria, while in the other there are no bacilli, but instead the so-called staphylo- and streptococci.

The first variety is highly fatal, statistics showing a mortality of almost 50 per cent., while the second, so far as danger to life is concerned, is comparatively harmless. Thus it becomes of great importance, whenever we have a case of exudative disease of these parts to deal with, to make, if possible, a positive diagnosis of its true character. The New York Board of Health has instituted a most practical method by which every practitioner can ascertain beyond a doubt the disease under his care, and thus avoid mistakes. Where this mode, as aforesaid, can not be made use of, I will explain, when discussing the subject of bacteriology, a very simple manner in a comparatively short time, so that the clinical observer can avail himself of this means of confirming his diagnosis, thus saving much time and trouble.

The causation of diphtheria leaves us much in doubt. We know that it prevails at all seasons of the year, most extensively in the damp chilly weather of the late fall and early winter. We find it in all latitudes and longitudes, although quite recently I was assured by Dr. Angel Garvino, Professor of Bacteriology at the University of Mexico, who visited New York, that the City of Mexico, which lies in a very high altitude, some 1,500 meters above the level of the sea, was comparatively free from diphtheria; in fact so much so that the experience of a case of true diphtheria is regarded with rare interest by the medical men of that city. The disease, too, is not limited to classes. We find it among the rich and poor alike; in well and badly ventilated and drained houses; in the thickly and sparsely populated districts.

Essentially, diphtheria is a disease of early childhood, although no age is exempt from it. Sometimes we find it raging in epidemics, again it is met with in isolated cases in which the question of origin by contagion can have but little weight. In short, these are the conditions under which we find diphtheria.

Many valuable statistics have been collected on the subject, but the limits of a chapter like this do not permit of such detail. Then, again, profitable as statistics are to the specialist and the doctor at large, they make the driest of dry reading. For such as desire more in this regard, the late brochures of Huebner, Baginsky, Oertel, von Brieger, Sidney Martin, William Welsh and others may be consulted.

Diphtheria presents itself under two series of symptoms—the local, and constitutional manifestations, to which may be added a third form best considered, however, as the sequelæ of the disease. Thus in speaking of diphtheria we should bear in mind these conditions, although they do not always manifest themselves together in each individual case. The local disease makes its appearance in an inflammatory process upon certain mucous membranes and denuded parts of the skin, the most common seat of affection being the membranes of the throat and fauces, those most directly in contact with the air, and the inflammation leads to formation of a membranous exudate which is usually the first indication that causes us

[1] I have purposely avoided more extensive reference to the bibliography of the history of diphtheria which may be found in nearly all the works on diphtheria, particularly that of Oertel, Mackenzie and others, in order to devote my limited space to the consideration of the disease in its more modern aspect.

to suspect the existence of diphtheria. Upon superficial examination the clinical observer meets with grayish or dirty white false membrane deposits upon the mucous membrane of the mouth, the pharynx, tonsil, nose; in fact, anywhere along the upper air passages. It is under the same conditions found upon the conjunctiva, the rectum or vagina, or upon any of the mucous membranes of the body that are directly exposed to the air.

When this false membrane invades the deeper mucous membranes, such as that of the intestinal canal, etc., we are inclined to regard it as secondary infection, notwithstanding that we lean to the opinion that the diphtheritic process is usually circumscribed locally, and spreading by way of the general circulation all through the body. Thus we account for the evidence of diphtheria as we find it in the various organs as a primary condition. This, by the way, is the most modern view taken of the disease and the one which to us, after careful consideration, is the theory most in accord with clinical manifestations.

Diphtheria is an infectious disease, and may be classified as somewhere between simple excitement of the circulatory system, and the most aggravated form of typhoid fever and pyemic poisoning. The sequelæ, in my opinion, will depend more or less on the extent of the general invasion from the original local disease, and largely upon the quantity and nature of the septic ferments that find their way into the circulation, involving those organs that offer the least resistance. The latest investigations point to the necessity of turning our attention to the form of true diphtheritis as much as has been hitherto done to the local manifestations of the disease.

In the study of the etiology of diphtheria the first consideration is to explain, if we can, the process of the disease itself. Roux and Yersin, in substantiation of their theory that the systemic effect of diphtheria is not due to the bacillus described by Löffler and Klebs, but rather is caused by the ptomaines or poisonous substances produced by it, proved it by separating the bacillus from the ptomaines and subjected it to chemic analysis and physiologic test. They described the disease as a toxemia, differing from others in the respect that the toxic acts as a ferment which when injected into living tissue, even in the most minute quantities, ushers into existence certain well defined albuminous substances or bodies.

Sidney Martin succeeded in isolating these poisonous albuminoids from the organs of persons who died from the disease. This substance was secured from the spleen and blood of children, was subjected to repeated alcohol falling and resolved itself into a proto- and deatro-albumose which he injected into the skin of rabbits.

In doses of 0.117 per kilo it produced a febrile condition and edema in the animal; slightly increasing the amount to 0.112 per kilo, rapid death of the animal followed. Intravenous introduction of this albumose in the same animals produced fever, progressive paralysis and degeneration of the heart, nerves and muscles, precisely analogous to those conditions we find resulting from diphtheria.

Löffler's theory of the local origin of diphtheria, when contrasted with the clinical manifestations of the disease, does not seem as plausible as when viewed from its bacteriologic and pathologic standpoint alone. True, he has given us a most careful and competent description of the bacillus, since honored with his name, and the majority of clinicians agree that upon the presence of this bacillus alone can the diagnosis of true diphtheritis be made beyond peradventure. We are not all bacteriologists, and we propose to lay the greatest stress on the clinical view of diphtheria. I shall refer to its bacteriologic significance only so far as it can be practically made use of at the bedside and aid us in diagnosis, treatment and prophylaxis.

Ab intra diphtheria appears to be a disease which draws into sympathy certain organs, preferably the heart, muscles, kidneys and nerves, and thus it becomes at first glance difficult for us to understand how it is possible that such conditions can be brought into play by a microörganism that has its habitat near the surfaces, and it is even more difficult to harmonize with the insidious progress of the disease and the toxemic symptoms we observe. Once, however, we establish the presence and origin of the diffusible ferments, all these characteristic manifestations become apparent. Bear in mind that the bacteriologic investigations of recent years do not stand alone; we can carry them one by one to the bedside and study them side by side, and reason logically from cause to effect.

One thing judged by the weight of careful research appears true, that it is essentially certain we can no longer hazard a positive opinion upon a case of diphtheria without having ascertained the presence or absence of the bacillus. Many of us appreciate the force of this broad statement from practical lessons learned at the bedside where without any indication that would direct our attention to it, we have seen certain cases of diphtheria resolve themselves in from one to three days into simple exudative tonsillitis or angina lacunaris.

Skigo reports several such cases which he met with during an epidemic of diphtheria, where the tonsils were covered with disseminated spots of exudate the size of a pea; and he tells us that there was absolutely no clinical indication by which he could differentiate the cases which ran the violent course of true diphtheria, and those which took the milder course.

The value of the bacteriologic character of the exudate in this connection received much attention from Morton, who examined 200 cases of diphtheria that had been diagnosed by that eminent clinician, Dr. Simon, of Paris. In only 137 of these cases did he find the bacillus; 43 of the remaining 63 cases proved to be tonsillitis; 13 proved to be croup, of which 12 got well without operation; 7 cases proved to be diphtheria with croup, 6 of which developed bacilli after the operation of tracheotomy had been done, and which Morton says was clearly due to hospital infection.

It is necessary in the very first instance to differentiate between exudative tonsillitis and true diphtheria. This, if we are obliged to follow the procedure of Koch, which requires a bacteriologic experience which the average clinician does not possess. The cultivation of the bacillus in glycerin agar requires time and patience, to say nothing of careful work. The bacillus must be isolated from the membranous exudate. The cultivation of the bacillus in blood serum requires at least from twelve to sixteen hours, and a day or a day and a half, at least, in making the diagnosis. With a case of true diphthe-

ria to deal with, so much time can not be sacrificed, and hence we must look to other more rapid means of gaining the object of which we are in search. In hospitals, with all the facilities at hand, we can allow ourselves privileges that we can not think of in private practice.

But we have a simple means at hand of making a hurried and certain examination of the exudate, where one can not have the opportunities of a city board of health. The method is the one devised by Roux and Yersin, modified by Huebner. A bit of the yellow covering of the membrane from the tonsil is removed with a sterilized spatula, and rubbed over the surface of a cover-glass until the film is very thin and almost dry. The glass is then passed through a flame and stained with methyl blue. The specimen, it will be found, readily takes the stain, and inside of a very short time it is ready for the field of the microscope. An ordinary objective magnifying glass of 400 or 500 diameters answers the purpose, and with a little practice, between the detritus, mucus, pus cells and the various bacteria heaps, you will observe nests or pockets of mixed up bacilli about the size of the tubercle bacillus, most of them slightly bent, some club shaped, often irregularly seamed.

With the presence of these nests established you may be reasonably certain, in fact we almost feel like saying absolutely certain, that the case is one of true diphtheritis.

On the other hand, if you find only the cocci—the strepto- and diplococci, with here and there, short, thick, weakly stained bacilli not arranged in nests, you will, in all probability, in fact you may be certain the case you have to deal with is not a true diphtheria. The statistics of Huebner covering 113 cases examined by him during a period of six years after Löffler described the specific bacillus, go a great way toward supporting the above statement.

In thirty-six cases, Huebner found cocci, many solitary ones, with some side by side, but no nests of bacilli with stained ends. Ten of these cases were scarlet fever, and thirteen presented the clinical picture of follicular tonsillitis or croup. The exudate of the other seventy-seven cases revealed bacilli arranged in nests; of these the nests of bacilli alone presented, while in fifty-three there were nests besides cocci. Of these seventy-seven cases, fifty-three died with all the manifestations of true diphtheria. The mortality of the cases where the bacilli predominated in very large quantities was 66 per cent., and where the nests and cocci both existed 59 per cent. died. Of the thirty-two recovered cases, seventeen presented all the clinical appearances and were of the most violent type, four were tracheotomized and fifteen were mild cases without any of the marked characteristics of true diphtheria.

From this, alone, the high value of a bacteriologic examination becomes evident, and to say the least, it is beyond question the most reasonable diagnostic factor we have had in years and of undeniable practical value, for the reason that in each case the cover-glass method before described alone was sufficient to make a satisfactory examination.

"It is possible," says Huebner, "that a recovered case may show bacilli some days after the disappearance of the membrane." I can add my testimony to this, for in four cases similar, I also discovered sparsely filled nests, two days after all visible signs of the membrane had disappeared.

It must not be forgotten that you will find cocci in angina lacunaris to which Fraenkel called our attention in 1886. And lately the claim has been made that a small coccus is always found in the pseudo-membranous disease, which is pathognomonic of the disease. This still remains to be proved, although it appears to us to be a fact ready for acceptance, yet it will require more careful investigation before we can put ourselves on record with an unmistakable picture of this microörganism. Martin, of Paris, first described the organism which he pronounced to be pathognomonic of the pseudo-membrane, and I am inclined to agree with him. The significance and value of these recent researches will bear much upon our treatment of this malady.

With Laycock in 1858, we have the first intimation of the possible parasitic origin of diphtheria, the parasite being the oidium albicans. Later, Letzerich ascribed it as due to the zygodemus, and Tuscos and Joffe to the leptothrix buccalis.

In 1868, Oertel carefully studied the habits of micrococcus which he isolated from the exudate, membranous exudate. It occurred as a minute, dark, point-like microbe; some round, others oval, occurring singly or in masses—zöoglea; it was always accompanied by the rod bacterium. In 1883, Klebs examined the exudates obtained during an epidemic in hemorrhagic diphtheria in Prague, and claimed to have discovered the specific germ of true diphtheria—the microsporon diphtheriticum, a small micrococcus, arranged in round balls covered by a thin layer of gelatinous matter. These subsequently developed into motive bacilli and finally into tufts of mycilium.

In another epidemic occurring in Zurich, and characterized by a rapid extent of the membrane into the larynx, followed by interstitial inflammatory process in the internal organs, Klebs came across a microörganism that differed totally from the one he first observed. It was lobular and essentially belonging to the bacillus group. He naturally concluded that there were two forms of diphtheria, *i. e.*, diphtheria microsporon and diphtheria bacillaris. Klebs undoubtedly was on the right track, but he lost the scent, which also escaped Emmerich-Solomen, until Dr. Frederick Löffler took it up and accurately pictured to us the bacillus which we now accept as characteristic of true diphtheria. It is essentially the one observed long before by Klebs whose weak point seems to have been insufficient accuracy and evenness in conducting his investigations.

To Löffler we owe the streptococcus and the bacillus; the bacillus of which I desire to speak at length here. It is non-mobile its form is difficult to describe in words that will give you an adequate idea of its appearance to the eye, for it is neither straight nor bent; in short, it is about the size of a tubercle bacillus, somewhat thicker. It is not found in the intestinal organs, and micrococci morphologically identical with those found by Löffler are observed also in various diseases accompanied by inflammation of the mucous membrane, like variola, typhoid and puerperal fever, but their presence there is regarded as purely accidental.

Löffler found his micrococci not only in the membranes, but also in the lymphatics, from which point they penetrated every part of the body, causing a tissue necrosis.

The micrococci are not always present. Inocula-

tion by injection of streptococci do not produce true diphtheria. This is the great evidence that they are not specific of the disease. Not so with the bacillus.

The bacteria of diphtheria is aerobic; that is, it requires oxygen for its life and growth.

The pathology of diphtheria.—As in the preceding pages on the etiology and bacteriology, I will not be able to go into details, but rather confine myself to the pathology, as it is most nearly associated with changes that are manifested by ordinary clinical observation. The most complete studies on the pathology of the disease have been made by Oertel, both as to the structure of the membrane and the changes in the tissues of the body, as we find them affected by diphtheria.

Let us take up the membrane first. In color, it is grayish or white, varying in thickness from one to three millimeters. It is tenacious, thick and closely adherent to the parts, and for this reason, on removing any of it for examination it is necessary to scratch with some vigor and not scrape lightly over the surface with a spatula. In the main it consists of degenerated fibrinous epithelium and faser stoff exudate. This with the coagulation of the fibrin produces a hyaline substance made up largely of degenerated cells and tissue elements. This occurs not only on the surface of the membrane, but deep down in the sub-epithelial tissue. The inflammation and fibrinous exudate is a secondary process.

The classification the modern observers are inclined to make, summed up is this: Diphtheritic pseudo-membrane is true diphtheria. Fibrinous pseudo-membrane is not true diphtheria. The two, as they appear clinically, are absolutely identical. There is absolutely no way of differentiating when viewed in gross. Practically speaking they are alike, and it is in this connection that the bacteriologic examination alone can determine the diagnosis. Both are a coagulation of fibrinous exudate.

The degenerative process in the spleen, in Peyer's patches, in the lymphatics, the solution and degeneration of the cells into coagulable hyaline substance are precisely similar to that which produces the pseudo-membrane in the larynx, trachea, uvula and pharynx.

The histologic structure of the membrane varies. The epithelium, according to von Wagner, is a fibrinous metamorphosis. Between the epithelium there are leucocytes which (*necrotistisch zu grunde gegangen sind*) have become resolved into hyaline substance, the masses of (*fibrinogener flussigkeit*), which transudated assumes in the epithelial structure the form of a network or fibrillated structure.

Masses of larger round cells are also intermixed, some broken down, others still retaining their apparent integrity, with disintegrated similar masses. The first change occurs in the nuclei of the cells.

The major part of the membranous masses of the pseudo-membrane is of secondary origin. It originates from the mucous tissue and the elements which form it have collected and originated in it. They were simply evolved from the depths of the membrane to the surfaces.

There is a fibrinous infiltration of the connective tissue observable in the lowest strata of the mucous membrane, also hyaline degeneration of the membrane; larger and similar round cells with the detritus of the breaking up of these cells, around which in the deeper layers we find healthy cells sickened, or so affected that they have gathered in heaps ready to undergo further change.

These, in brief, are the pathologic products and changes we find in the structure of the membrane and its continuance indicates that the disease is advancing.

It is claimed that pathologic changes, such as have been described, may be produced by injections, in the membranes and the tissues directly underlying, of powerful irritants, and thus the possibility of producing diphtheria by mechanical means is claimed to be possible.

460 Lexington Avenue, New York City.

DUTY—LOYALTY—SUCCESS.

Read before the Joint Meeting of the Golden Belt and Northwestern Kansas Medical Societies, held at Ellsworth, Kan., Oct. 4, 1894.

BY WILLIAM B. DEWEES, A.M., M.D.
SALINA, KAN.

Fain would I call the attention of not only those within the sound of my voice, but of every member of the two Societies here represented, as well as of every reputable practitioner in America, to the too much neglected duty of contributing to and studying the proper current medical literature. By the right endeavor in this direction the great distinctive service of American practitioners of medicine may justly become effectually manifested by its counteracting influence in removing the pedantry shown in some of our medical colleges and periodicals, and encourage the expression of original thought and observation in young physicians. The distinction of young physicians is made because it is from this rank that the future advance in medicine will be made, and also from the cognizance that most of the older members of our guild have never learned to write nor to observe or study, while as they become burdened with the cares of a large practice or the habit of indifference, it becomes impossible for them to acquire the art of writing. Thus, whatever knowledge they may possess of positive value to the profession, dies with them.

Advance in medical education follows the earnest endeavor of the thoughtful and observing doctor to learn something of profit and interest, and then place this before the profession in the most attractive manner. When a young practitioner has begun to realize that he can talk to the medical profession throughout the State, the nation, and even the world, life and study take on an entirely new aspect. To the day of small things will now be added the day of an enlarged and enlarging physicianhood. He who fully realizes this truth will never write a poor article for publication. The poor articles come from quite a different sort of doctors. To every young practitioner who would make the most of his powers I would say: Think and observe for yourself, and write for the best periodicals constantly. Though it be only one or two articles a year and much time be required to prepare the same, be sure to acquire and keep up the habit of correct thinking and observing, constant study and perfect writing.

With regard to studying the proper current medical literature, it is but necessary to call attention to the fact that no practitioner can be considered as progressive who has not provided himself, first of all, with the true representative periodicals of the profession of his State and nation. Therefore every

loyal physician in Kansas should consider it his first duty to become a member of the local medical society of his city, county or district, then to join the State Society and thus in turn hold membership in the AMERICAN MEDICAL ASSOCIATION. Then will follow the regular weekly visits to his table of both the *Kansas Medical Journal* and the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. These periodicals are the official organs of the State and national organizations respectively, and are independent, being controlled and issued by medical men for professional purposes only, and will allow a weekly interview and counsel with the best medical talent of the State and nation. This argues for State and national unitary medical organization. Why not? Our business remains to be the welfare of the people and raising the standard of our profession. We are thus to consider ourselves called upon to constantly arouse in the medical mind the recognition of the need of professional unity. Without unity we can not speak properly and effectively to the people or the profession, criticise abuses, or encourage faint and sporadic attempts to be in accord with nature. In unity we shall find strength and success, while singleness of purpose can only bring professional weakness and failure.

They only gain the largest success who improve every opportunity. By thus studiously applying himself the doctor may become as progressive in Kansas as anywhere else on the globe. We say progressive, because our profession is a progressive one; and every succeeding representative of a progressive cause, will find the pre-requisite to be more knowledge and a better understanding of the truths which the same embodies, in order to be properly qualified and merit the name of a representative. The knowledge and wisdom of to-day will not fully serve the needs and wants of to-morrow. What little we can do now and year by year, are like little seeds scattered by the wayside, yet falling upon good soil, will germinate and grow, and though planted by a tyro and watered by Apollo, the kind and ever careful Dame Nature will not fail to give them the rightful increase.

We know of no means by which success will come to our profession, save by untiring industry in both individual and united effort. The great danger of failure lies in knowing and doing too little and not in knowing and doing too much. It is work that gains the goal and wins the prize; and as we have nothing which we desire to lose but much to gain, we should have strong wills followed by strong deeds; such as will leave their impress as guides to our successors. A mark set high and a plan well laid are not often found in the *débris* following a failure; but stand out prominently as monuments of mature intellects, not easily shaken and much less destroyed. Let us then henceforth individually and jointly endeavor to "learn to labor and to wait," and see to it that our brethren do likewise—even though we shall find it necessary to "go out into the highways and hedges, and compel them to come in," (Luke xiv, 23) to work and be happy, to be loyal and deserve success in unity. Let our motto be in the language of Addison's "Cato:"

> "'Tis not in mortals to command success
> But we'll do more, Sempronius; we'll deserve it."

When thus we become really aroused to the proper sense of our duty and demonstrate effectually our loyalty to our profession with a spirit that will strongly and convincingly awaken our brethren who are now dormantly existing in professional desuetude, by driving home to them those conditions which are of a nature that pinch the conscious, and of which the only consoling element is to be found in the thought and act of "*We must be born again;*" then will the possibility present itself of increasing the membership of the Kansas State Society to upwards of 1,000, and that of the AMERICAN MEDICAL ASSOCIATION from less than 5,000 to a possible 50,000—which estimate will include only a limited number in excess of one-half of the practitioners of rational medicine in our State and Nation, respectively. Then, and not until then, may we confidently hope to find enlisted the requisite majority essential to ultimately have success reward our efforts by bringing about through unitary action, legislation in all things concerned with the well-being of the people, as it should be, namely: In dependence upon concerted medical advice. Will we do our duty, be loyal, and deserve success?

TOXIC AMBLYOPIA.

Read by title in the Section on Ophthalmology and Otology, at the Forty-fifth Annual Meeting of the American Medical Association, held at San Francisco, June 5-8, 1894.

BY JAMES A. LYDSTON, M.D., Ph.G.

LECTURER ON OPHTHALMOLOGY AND OTOLOGY IN THE CHICAGO COLLEGE OF PHYSICIANS AND SURGEONS; MEMBER OF THE AMERICAN MEDICAL ASSOCIATION, THE CHICAGO MEDICAL SOCIETY, AND FELLOW OF THE CHICAGO ACADEMY OF MEDICINE, ETC.

CHICAGO, ILL.

Accustomed as we are to such precise and accurately descriptive terms in ophthalmology, it is a matter of some surprise that such vague and indefinite ones as amaurosis and amblyopia should have withstood the changes of years and still confront us as we scan the index of every well-arranged ophthalmologic text-book; but we presume that the ophthalmologist feels himself entitled to just as much license as does the author of every treatise upon the principles and practice of medicine, wherein we see an entire chapter devoted to jaundice, which is at best but a symptom of hepatic derangement. Were we to adhere strictly without qualification to the modern definition of amblyopia, we should confine ourselves strictly to those cases of visual perturbation in which there is no dioptric or structural change to account for the defective visual acuity; but in strict accordance with my subject I must depart from such a fixed classification and embrace all forms of impaired vision arising directly or indirectly from retinal or optic nerve changes due to toxic causes whether heralded by organic disturbances, ophthalmoscopically perceptible, or dependent upon retinal or optic nerve intoxication under the one significant title, toxic amblyopia. Inasmuch as in every case of optic nerve or retinal change, arising from toxic influence, it is only in the later degenerative stages that characteristic phenomena assert themselves and become sufficiently grave to be perceptible to ophthalmoscopic investigation. Thus grouping toxic amaurosis and toxic amblyopia together we find that a common cause is often the dominating etiologic factor. Thus we have uremic amaurosis and uremic amblyopia, designed to describe different degrees of impaired vision consequent on one and the same cause. Therefore, with the remark that I shall not attempt to differentiate between toxic amblyopia and toxic amaurosis, regarding the two terms, as we must, as

simply differing in degree and descriptive of visual changes resulting from either moderate or severe retinal or optic nerve intoxication or structural change, I will at once invite your attention to a few clinically demonstrable facts that may serve to shed some light upon a subject which is at best but a poorly comprehended and complex topic.

Samelsohn is entitled to credit for having presented us with the knowledge that anatomic investigation revealed in all cases of toxic amblyopia an inflammation of that part of the optic nerve lying within the optic canal, which serves to explain many otherwise inexplicable optic nerve changes. Toxic amblyopia has been known to result from many and various causes. As significant of its origin, we are burdened with numerous names descriptive of the disease. Thus we have amblyopia uremica, amblyopia albuminurica, amblyopia saturnina, amblyopia diabetica, amblyopia nicotinica, amblyopia alcoholica, etc., and of all these, probably from their greater frequency, amblyopia nicotinica and amblyopia alcoholica are the most commonly described and more fully appreciated, and we find these forms to be accompanied by a chronic retro-bulbar neuritis which lies at the bottom of the subjective manifestations—defective vision, nyctalopica, scotomata, etc., which are the suggestive manifestations to the patient, and if the interstitial neuritis is overlooked will ultimately lead to permanent optic nerve changes such as atrophy of the nerve, blanching of the papilla, atrophic excavation, contraction or narrowing of the retinal blood vessels and consequent pronounced limitation of the visual field.

Arlt described the condition that we appreciate to-day as amblyopica nicotinica, under the title of amblyopia nyctalopica, inasmuch as nyctalopica was its most striking symptom, ascribing the nyctalopica to dazzling by intense illumination for lack of a better explanation; but thanks to Samelsohn, we are able to define a more plausible reason for the changes. Three well-marked and typical illustrations of toxic amblyopia, or better, retro-bulbar neuritis from toxic causes, arising from the excessive use of tobacco, and aggravated by alcoholic indulgence and excessive venery have presented themselves to my notice in the last few months, and in each instance I was able to define marked retinal ischemia, pronounced pupillary dilatation, together with sluggishness of the pupil under the reflex stimulus of light. In all cases the attention of the patient was directed to his eyes by great visual deterioration in both eyes, and that, too, to a similar degree in each. The constancy of nyctalopica as a symptom occurring in the early stages of this affection, I believe with Arlt is partially explicable on the ground that the pupil is dilated and therefore during the day permits light to enter the eye in floods, producing a disagreeable glare, dulling the retinal elements by over-stimulation. As we know that when the eye is suddenly exposed to the influence of the terrific glare of an arc light its retinal impressions are almost obliterated, as was typically illustrated in one of the electric light fitters in the Champlain Building, whose eyes I had the opportunity of examining ophthalmoscopically immediately after they had been subjected to the flash consequent upon a short circuit. In this case there was developed an acute traumatic conjunctivitis and amblyopia fugax, both of which symptoms disappeared with appropriate rest under atropin, dark glasses, etc. Aside from hyperemia or ischemia of the disc, we may say ophthalmoscopic examination reveals no changes in early cases of toxic amblyopia. Testing the vision, however, we note gradual diminution of the visual acuity, the cause of which is a central scotoma. This scotoma is horizontally oval in form, extends from the macula lutea to the optic disc and corresponds to the maculo-papillary region of the retina. The gap is noted where the vision is tested by means of a white object, but red and green change in the region of the scotoma, appearing less highly colored than in other parts of the visual field, and as the case progresses, red becomes wholly imperceptible, and finally white disappears in the area corresponding to the scotoma, the vision is reduced to its extreme, and we now have an absolute scotoma, but here, as in other instances in which it is advisable to test the visual perceptivity of color, we must remember that even within physiologic limits the perception of colors is not the same in all portions of the visual field, *i.e.*, there may be a wide difference between central and peripheral color perception, and while we can test the central region with the colored skeins of Holmgren, the peripheral color acuity must be investigated by movable colored bodies which are forced into different positions, throughout the visual range, and thus are we able to define that the peripheral retinal domain is normally color blind.

The etiologic factor in that variety of toxic amblyopia styled amblyopia nicotinica is the excessive chewing or smoking of tobacco combined with excessive drinking, sexual excesses, etc., consequently most, if not all, cases are found among men, and not earlier than middle life, more frequently in cases of advanced age, as it seems that as age advances the optic nerves become less tolerant to the effects of nicotin, and again individual predisposition or particular susceptibility seems to be a prime factor in certain instances in this class of cases, therefore comparatively small quantities of nicotin are sufficient in exceptional cases to produce optic nerve intoxication to the degree of exciting amblyopia, while in others *per contra*, there seems to be almost complete immunity to this affection. A point possibly that exercises an important bearing in the way of explaining the occurrence of toxic amblyopia is the fact that in certain cases the physiologic excavation involves almost the entire disc, and the fibers corresponding to the area of the disc implicated in the physiologic excavation are consequently more prone to degenerative change. And again, another predisposing factor is in my estimation the fact that in adult life the optic nerve fibers lying adjacent to the pial sheath regularly experience atrophy, while coincidentally therewith atrophic changes assert themselves in the optic nerve fibrillæ lying contiguous to the central vessels which, complicated by the toxic influence of any poison having a particular predilection towards optic nerve degeneration, favors optic nerve change with consequent amblyopia.

With respect to treatment, the primal indication is to eliminate the exciting or predisposing factor. We must at once withdraw tobacco and advise complete abstinence from alcoholic beverages, excessive venery, etc.; in short, everything that tends to deplete or lower the vital powers of resistance must be eschewed. Proper regimen of the eyes advised and instituted, excessive close eye work, as well as exposure

to the dazzling effects of bright light should be avoided, and tonic measures of treatment at once applied. Among the remedies that stand preëminently forth in the management of toxic amblyopia from whatever cause, we yield the palm to strychnia, hypodermatically given, either at the nape of the neck, or in the temporal region. To Nagel belongs the credit of having first used strychnia in cases of optic nerve change, and Hippel has determined that it exercises a mildly stimulating effect upon even the normal nerve, increasing visual acuity in a transitory manner and widening the field of vision. In addition to strychnia hypodermatically and internally, iodid of potassium, in goodly sized doses, seems to exercise benefit by its eliminative tendencies, and at the same time probably separates nicotin into less poisonous compounds. Another efficient remedy is pilocarpin, both internally and hypodermatically administered, exercising its effects through elimination, diuresis and diaphoresis. Numerous other therapeutic agents are said to excite a retro-bulbar neuritis with consequent amblyopia, among the most conspicuous of which are stramonium, carbon bisulphide, lead, chloral, opium, quinin, osmic acid, etc. I have met with toxic amblyopia arising from huge doses of quinin, but here there were, as a rule, no diagnostic optic nerve changes, aside from retinal ischemia or hyperemia and slight swelling of the disc, and the amblyopic manifestations were fugacious in character, so that the diagnosis was necessarily based upon the immediate restoration of vision following withdrawal of the medicament, which was exercising a toxic effect exhibited by the amblyopic manifestations.

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THE MARINE BIOLOGICAL LABORATORY AT WOOD'S HOLL, AND ITS POSSIBLE RELATION TO MEDICAL EDUCATION.

BY C. S. BACON, M.D.

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Medicine, which lays under contribution all the natural sciences, chemistry, physiology, botany, zoology, etc., is interested in the development of each of its subordinate or fundamental parts, and hence can not be indifferent to any means which promises to aid the growth of any one of these foundation sciences. Such an agent in developing biology is the Marine Biological Laboratory of Wood's Holl, Mass. The questions that have been asked convince me that there is much interest among medical men concerning this station for science research and teaching, combined with as much ignorance of its practical workings. To satisfy this interest I will give the readers of the JOURNAL some idea of the aims and methods of this institution and then suggest how it can be of use to the medical profession.

Although marine laboratories have been in existence only for about twenty years, their objects or functions are well known to all who have to do with morphologic and physiologic functions. Prof. C. O. Whitman, Director of the Laboratory at Wood's Holl, in the opening sentence of an article in the *Atlantic Monthly* of June, 1893, makes the following suggestive statement: "The ocean is now regarded as the original home of life on this planet and its present inhabitants furnish records of life histories and evolution phases which are absolutely indispensable to a deeper insight into the phenomena and laws of life." It may be added that for purposes of instruction marine forms can be studied in their natural habitat more easily and economically than land animals and especially is this true of the study of their embryologic and larval stages of development.

The laboratory at Wood's Holl differs in one important respect from other seaside laboratories, such as the well-known station at Naples. Our American laboratory combines the function of a station for research with one for instruction, while that at Naples is exclusively for original investigation. Any one who intends to enter upon any line of research but is unprepared in the details of technique may acquire in the school such preparation at a great saving of time and energy. The school is also made use of by teachers in colleges, normal and high schools who wish to keep up to date their knowledge of biology and the methods of study. For their benefit there have been organized classes in vertebrate and invertebrate anatomy, embryology, morphology, comparative physiology and botany. A more vivid idea of the way these courses are presented may be obtained by a short detailed description of the course with which I am most familiar, that in embryology. This class studies the fertilization, segmentation and early stages of development of various pelagic fish eggs, and the variations produced by securing abnormal conditions of pressure, rupture of cell membrane, etc.; learns the method of killing, staining, sectioning in parafine and celloidin and reconstruction. Some time is also given to the study of the holoblastic eggs of sea urchins and amphibians. This statement of the work at the tables, however, gives but a very incomplete idea of the value of the course. One of its most important features is the series of lectures and seminars with discussions of the vital questions of biology, such as the structure and nature of the cell, the questions of heredity and homology, etc. Here the broad-minded tolerance of the director and his wise, suggestive and stimulating influence are best seen and felt. The contact with the resident investigators and visitors who give the lectures is also as profitable and stimulating.

I shall not attempt any particular account of the research department further than to say that each investigator has his own room and is given every facility for collecting material that can be furnished by free use of the laboratory boats and a steam launch. A list of the workers who are here, or have been here, would include the names of a considerable proportion of those who are making original contributions to science. A list of the publications that have been prepared here would, no doubt, surprise many who have not realized the importance of a marine observatory.

It should be noted that this institution is not under the control of any school or sect, but is national in its scope and organization. Its trustees and instructors are from the faculties of Harvard, Brown, Yale, Columbia, Universities of Pennsylvania, Chicago, Michigan and other widely separated schools. Twenty institutions have subscribed for rooms or tables while the 133 students present this year represent 70 colleges, universities and schools.

In locating the station at Wood's Holl the directors profited by the earlier attempts to establish similar institutions at less accessible points, that of

Agassiz's summer school at Penikese and the school at Annisquam. Wood's Holl is at the southwest angle of that part of the Massachusetts coast that bounds Buzzard's Bay on the east and forms the northern boundary of Vineyard Sound, the eastern extension of Long Island Sound. It is easily reached from New York or Boston and is the starting point for boats to Martha's Vineyard and Nantucket. Buzzard's Bay, the sound, the ocean to the east with its numerous shoal banks, the long stretch of the coast line of the main land and the adjacent islands furnish excellent collecting grounds for both northern and southern marine forms. Brackish and fresh water ponds are near while the flora is rich and accessible. The United States Fish Commission is also located here and is of value to the laboratory in many ways. The climate is ideal for a summer resort. The invigorating sea breezes, the cool nights, the afternoon swim and the numerous excursions and collecting expeditions all tend to make one forget that there is a hot, bustling and uncomfortable city. If one does not care to do much laboratory work he can pass a most pleasant and profitable vacation of four to six weeks by renting a sail boat for the season at an expense of from $10 to $20, take in the lectures, come in contact with the workers, and thus imbibe the spiritual and climatic air. The laboratory furnishes a good "mess" at $5 a week, while lodgings can be obtained at from $2 to $5.

The school is supported by donations from friends of scientific research and by fees from students. The courses in which instruction is given are $50, while the investigators rooms are $100 for the season. Many schools and colleges have subscribed for tables or rooms for the use of their most promising students. It has seemed to me a practical suggestion that medical colleges and societies subscribe for tables or rooms for the use of members of the faculty, or as prizes to students to be awarded for excellence in scholarship or of a thesis. The laboratory is now open only during the summer months as there is no provision for heating the building. An effort will soon be made to secure sufficient funds to erect permanent buildings and provide an endowment that will make the institution secure.

In considering the relation of schools in biology to medical education it is hardly necessary to discuss seriously at this day the proposition that the student of medicine should be well grounded in comparative anatomy and physiology, embryology and physiologic chemistry. These sciences are the foundation of human anatomy and physiology and hence the foundation of the science of medicine. Without them the physician would be like a watchmaker who should attempt to regulate the mainspring of a watch without a knowledge of its shafts and pinions, or a locomotive engineer who should attempt to manage his machine while ignorant of the properties of steam. In a few of the best medical schools this proposition is assumed, and such knowledge is made a condition of admittance. To supply it, a few schools have established short courses in embryology, bacteriology, etc. But teachers need teaching to keep their knowledge up to date. For many years it has been the custom for the teachers in our common schools, high schools and colleges to get together in their normal institutes and State and National conventions for the exchange of views, learning improved methods and securing the stimulation necessary for success in their work. The State and National medical associations help physicians in the same way. These meetings, however, are hardly sufficient. They are too short, too much is crammed into a few days and there are too many social distractions. The recent growth of summer schools is very suggestive. The real meaning, purpose and uses of a vacation are becoming better known. A true vacation is not idleness; it is a change of work. Hence I believe that summer schools in biology furnish an ideal vacation for teachers in medicine or, indeed, for all physicians.

I will suggest, then, that teachers of anatomy in our medical colleges come to Wood's Holl and take the course in comparative vertebrate anatomy that is planned for the season of 1895. The course will be under the direction of a corps of instructors of national reputation and the animals dissected for the practical laboratory work will be of the most typical nature (amphioxus, shark, skate and an amphibian). The most modern and improved methods of microscopic and histologic research will receive special attention. After such a course I will warrant that they will no longer impose on their classes by reciting Gray and calling the performance lecturing on anatomy. The physiologist, pathologist and neurologist can also find here abundant material for work, while every physician who has a special interest in any line of work can certainly profit by learning the latest methods of original investigation.

FIBROID TUMORS OF THE UTERUS.

Read at the Meeting of the Illinois State Medical Society, May 15, 1894.

BY LOUIS A. MALONE, M.D.
JACKSONVILLE, ILL.

The natural history of uterine fibroids must include their course and development, from the smallest pathologic deviation to the fully developed growth, histologic anatomy, symptomatology, and, as well, classification.

In looking over the literature of this subject, it seems as if each one has endeavored to create for himself a new term to describe the same condition. The classification of these tumors which seems to meet with most general adoption and which most nearly expresses the pathologic anatomy is fibro-myoma.

Mr. Lawson Tait is clearly of the opinion that these so-called tumors of the uterus are simply perverted muscular developments, as in all cases of uterine fibroids where careful examination has been made by him or his assistants, characteristic, unstriped, involuntary muscular fibers have been found. In his classification he makes but two divisions—multinodular and soft edematous myoma. Of the two he says that edematous myoma is always interstitial, while the multinodular may be, and in fact generally is, at once submucous, interstitial, and subperitoneal.

This classification of Mr. Tait's hardly meets with the approbation of most writers on the subject. His edematous myoma appears, according to other writers, simply as a degenerated process of the same tumor which he classifies as multinodular. Like nearly all, or all, of the malignant or benign tumors of the body, they have their origin in the natural tissues of the body and are but degenerated muscular cells from the uterine body itself.

In an excellent paper read before the Mississippi Valley Medical Society, Oct. 4–6, 1893, by Dr. R. Stansbury Sutton, of Pittsburg, Pa., and published in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, the whole subject of uterine fibroids is carefully gone over. He has summed up in a most excellent form all that is known on the subject, and I am indebted to him for a great deal of assistance from this paper.

The term, fibro-myoma, is all comprehensive and will describe the histologic formation of all such tumors; in some the connective or fibrous tissue will predominate, while in others the muscular, so that the classification of subperitoneal, interstitial, and submucous fibroids will be simply the naming from location.

When it comes to dealing with the treatment of these tumors, however, and with the symptomatology, their location is of the utmost importance. The pathologic changes which these tumors may undergo are varied; and have also led up to an additional classification. Like tissues elsewhere in the body, these neoplasms may undergo different degenerations such as fatty degeneration, myxomatous, suppuration, gangrene, calcification, or cystic degeneration.

The subperitoneal or subserous fibro-myomata is simply an outgrowth from the wall of the uterus, pushing the peritoneum and part of the uterine wall before it, sometimes becoming pedunculated, at other times sessile, simply pressing out the sides of the uterus between the folds of the broad ligament or peritoneum, which subsequently forms a serous covering for it. This pedicle may remain thick or become attenuated to such a degree that nothing but the layers of the peritoneum and intervening cellular tissues, blood vessels and nerves intervene.

The tumor continues to grow in the cavity of the pelvis toward which it gravitates, retroverting the uterus if attached to its posterior wall, until finally it reaches such a size that it can not enter the superior strait of the pelvis. When it projects from the top or anterior wall of the uterus, the latter is retroverted as soon as the growth has attained any considerable size.

The growth of these tumors in the pelvis gives rise to distressing rectal irritation, and often to retention of urine; the narrowing of the caliber of the rectum causes constipation and hemorrhage. The irritation and obstruction to the circulation, both from the mechanical presence of the growth and in malposition of the uterus, produce profuse bleeding at the menstrual epoch. Once the tumor has become subperitoneal, it may contract adhesions to the viscera against which it rests.

When the pedicle is long it may become twisted as in ovarian tumors; but if a new blood supply has been established the tumor will not die, even though it may be separated from the uterus. When this variety of tumor drags the uterus upward, or the base of the pedicle is broad and the tumor falls backward, bending the uterus, the cavity is increased in depth. As the pedicle becomes elongated the uterine cavity shortens whether the tumor decreases in size or not; the uterus may be flattened out completely and adherent to the side of the tumor. After it has contracted adhesions to the intestines any rotary motion of the tumor is liable to produce intestinal obstruction, and to demand immediate operative interference to save the life of the patient.

In submucous fibro-myomata the tumor develops in the wall of the uterus just beneath the endometrium, pushing forward into the cavity of the uterus, and as it projects it carries the lining membrane before it. The pedicle of this variety may be very thick, and like the lining membrane of the uterus contains muscular tissue and very small blood vessels. After entering the cavity of the uterus, these tumors become pear-shaped due to the action of the muscular contractions of the uterus. They are usually expelled sooner or later from want of nourishment and the action of the uterine contractions. This is the class of fibroids in which ergot has been used extensively and great success has been accredited to the drug; but in the natural history of this tumor it is often expelled after the use of any remedy. This is the only class in which ergot can be used with any degree of safety.

The intramural or interstitial fibro-myoma develops in the uterine wall and is surrounded on all sides by uterine tissue; it receives a greater blood supply than any other form, and perhaps reaches a larger size, the patient often appearing like one at the full term of pregnancy. These tumors bulging out of the uterus laterally, spread apart the layers of the broad ligament, and the hypertrophied tubes are spread out high upon the tumor. The uterus and the tumor develop in such a way as to entirely alter the relative positions of the uterine appendages. In these cases the cavity of the uterus is deepened or shortened, and often rendered crooked, thus making it exceedingly difficult to find the os uteri in the vagina. These externally large tumors are usually single, and the walls of the uterus may be found either greatly hypertrophied or much atrophied; they occasionally undergo cystic degeneration, grow to an enormous size and constitute the edematous myomata of Tait.

Mr. Tait says that he never saw a nodule having its origin in the true cervix. This statement seems rather queer for one who has had so wide an experience. I have seen a few cases where the fibroid development reached a considerable size and which undoubtedly had its origin in the true cervix. These tumors follow the same laws as to location and development as those in the body of the uterus.

The symptoms produced by these degenerations vary greatly in different subjects; we see patients with large fibroid developments who seem to experience but little inconvenience, while others with comparatively small growths suffer very greatly.

In my experience I have found that the intramural and submucous fibroids are more apt to make invalids and the cases are more likely to terminate fatally, than any of the other growths. While ordinarily these are comparatively harmless growths, yet in many cases very active and energetic treatment is necessary for the relief of symptoms.

Prognosis.—The subperitoneal growth causes the fewest deaths; the interstitial, cervical and submucous are far more serious and the prognosis much more grave; especially is that true of the submucous, for there is likely to be a fatal hemorrhage even from a very small tumor. Yet if there be no cystic degeneration and the patient is not having any serious hemorrhage the prognosis can be hopeful, for after the menopause the tumors, in most if not all cases, grow smaller.

I have a case in mind of interstitial fibroid tumor where the patient was as large as a woman at full

term; two years after the menopause the growth had diminished fully one-half, and is still growing smaller. Another case where the growth reached the size of a fetal head at full term during gestation but entirely disappeared one year after labor.

The rapid disappearance of a uterine fibroid after the menopause occurs so frequently that it must have come under the observation of nearly every medical man.

EROSIONS AND LACERATIONS OF THE CERVIX UTERI.

Read in the Meeting of the Missouri Valley Medical Society held at Council Bluffs, Iowa, Sept. 20, 1894.

BY GEO. H. SIMMONS, M.D.
LINCOLN, NEB.

I hardly think it necessary to offer an apology for a paper on this subject. We hear and read so much of, and the time of our society meetings is monopolized so much with, the wonderful major operations of the day that it may seem cruel to bring you down from the scientific altitude you occupy in discussing laparotomies, hysterectomies, appendisectomies, (that is a new word) and a dozen other ectomies and otomies that can only be indulged in by the select few. But when we consider how very, very few women there are who need their ovaries or wombs removed,—whether they have it done or not; and when we realize how very, very many women there are suffering from pathologic conditions of the cervix, I am sure you will pardon me for taking up your valuable time with what some of you may think an invaluable subject.

"Ulceration of the womb" used to be the fad among women, and it was a fashionable thing to be under treatment with some popular physician for this trouble. It was just as much of a fad for the physician to call every trouble that affected the cervix, ulceration. But while we may have ulcers of the cervix such as chancres, tubercular, simple and corroding ulcers, we now know that the so-called ulceration of the womb is not an ulceration at all, there being no loss of tissue, but a new formation, or rather a pathologic transformation. We now call this condition, for want of a better name, *erosions*. Under the microscope we find that in the place of the normal pavement, epithelium, there has been a substitution of the cylindrical variety. There are small, reddish, semi-transparent and pedunculated masses in the orifice and extending more or less on the lips of the cervix. To the touch they seem soft, patulous and spongy, sometimes more or less granular, and often bleed at the slightest touch. The cause of simple erosions is often hard to trace. Fischel says that many women seemingly have a natural predisposition to erosions. These women have erosions from the slightest inflammation or a cold. Tyler Smith claims that the condition is merely a hernia of the mucosa, an ectropion similar to that of the conjunctiva from inflammation, although he probably here refers to erosions from lacerations. It often originates from a simple catarrhal inflammation of the endometrium, extending through the os and, from irritation, the epithelium proliferates, becomes softened and macerated by the morbid discharge. The inflammation extends deeper and, instead of the normal membrane, there appears an elevation of soft, deep red papillæ which readily bleeds. Another great cause for these simple erosions is displacement. A badly fitting pessary has often in the past caused acute inflammation of the cervix which finally developed into a semi-chronic granulation. In fact, acknowledging the generally accepted views of the pathology of simple erosions, anything that will cause endometritis or cervicitis may cause that condition. It is, however, a rare condition without being complicated and really caused by laceration. Gallabin, Atthil, Macan, and other European authors, while hardly mentioning laceration as a cause, say that the condition is seldom seen in nullipara, a strong argument, certainly, in favor of the trauma occasioned by labor being the cause. Neither has it been my experience that simple erosion without laceration causes any particular reflex constitutional ailment.

The treatment ordinarily is simple and the results satisfactory. The cause, if possible, must be discovered and removed. Hot douches combined with rest will often alone effect a cure. A mild application of nitrate of silver, Churchill's tincture of iodin or iodized phenol may be necessary.

Coming now to laceration of the cervix, whether accompanied by erosion or not, we can not help but wonder how this condition remained unrecognized as long as it did. For twenty-five years after the invention of the speculum the condition which we now know to be simply a tear was looked upon as an ulceration without any traumatic cause. Grailly Hewitt, of London, writing in 1882[1] says: "Is it not a little remarkable that, largely used as the speculum has been in the investigation and treatment of the diseases of the uterus, cases of severe laceration of the cervix seem to have been overlooked until a very recent period, even by those who were most in the habit of employing the instrument." Probably it was because the profession accepted without question the dogmas of Bennett that displacements were the cause of ulceration, and ulceration the cause of about all the diseases with which women suffer. It was left to Dr. Thomas Addis Emmett to first describe the true character of this lesion and to give us a radical measure of cure. His first paper on the subject, published in 1869, brought it before the profession and while it was slow in being adopted, still twenty years ago it was generally accepted by the leading gynecologists of America, although it was many years before it was hardly discussed in Europe. And it is astonishing with what pertinacity some of the leading gynecologists of Europe are still opposing this operation. Tait, in his last work on diseases of women,[2] says: "A great flood of operations has gone through the practice of gynecology of recent years for the stitching up of this innocent fissure. The real trouble is the subinvolution and the consequent chronic metritis, and nothing more useless than Emmett's operation has ever been introduced into surgical practice." We believe that what he calls the "real trouble" that is, "subinvolution and the chronic metritis," is the result of the fissure as he calls it. Speaking before this of erosions and chronic granulations, he says: "It is very often a sequelæ of the first, or indeed of any labor or miscarriage." If this be so, is it not evident that it is caused from a laceration? I have not the slightest hesitation in saying that Emmett's discovery and his operation have done

[1] Diseases of Women, page 416.
[2] Diseases of Women and Abdominal Surgery, page 105.

as much good in relieving suffering among women than have the major operations, even including the so-called Tait's operation. In looking through the London *Lancet* for the last ten years the subject is mentioned scarcely half a dozen times. The only elaborate article is a long editorial review[3] of an exhaustive thesis by Noeggerath, of Weisbaden.[4] After reading the editorial, one is impressed with the belief that the editor, when he laid his pen down at the end must have heaved a sigh of relief and said: "That will end Emmett's operation for all time." Noeggerath sums up his investigation with the following six conclusions, which are heartily indorsed by the reviewer:

"1. Women with laceration are more prone to conceive than those without; they are also less likely to miscarry.

"2. The position of the uterus is not affected by laceration.

"3. The axis of the uterus is not elongated by laceration.

"4. Ulceration and erosion are as common in one class as the other and diseases of the cervical tissue are not more common in lacerated than unlacerated cervices.

"5. Lacerations have no influence in producing uterine disease either as regards frequency or intensity.

"6. Eversion of the lips is never the result of a laceration. The restoration of the shape of the cervix can have no influence on the uterus."

It is needless to deny these propositions before a body of intelligent men on this side of the water. Stated exactly opposite to what they are, and they would be accepted as axioms by every gynecologist in the United States and by every gynecologist in Europe who has studied the subject conscientiously and without prejudice. During a fifteen months' study in Europe in 1883 and 1884, nearly all of the time in gynecologic work, I never heard the lesion mentioned, and trachelorrhaphy was never spoken of, and even to-day laceration of the cervix is still unrecognized in Europe except in very few instances, as a pathologic condition causing serious local and reflex results, and the operation for its radical cure has never been accepted as a necessary operation except by a few men.

Laceration of the cervix is the most frequent lesion resulting from child-birth although abortion at even the second month may produce it in spite of the fact that the softness and elasticity of the fetus would make it seem decidedly improbable. We need not enter into a discussion as to whether they are caused more often at the first, than at subsequent labors. Munde, and others claim that it is more often at the first, but Pozzi has many followers who claim the reverse. His explanation is that although at the first confinement the os dilates more slowly it is in a healthy condition and is not so likely to tear as after the parts have lost, to some extent, their power of resistance from inflammatory action, the result of previous labors. The cause is nearly always beyond the control of the accoucheur to prevent, and it is the duty of the gynecologist to protect the obstetrician from any harm as he will have plenty of opportunity to do. The woman is nearly always ready to blame her physician for the trouble. And there is no doubt that there are times when the physician is to blame. Application of the forceps before the os is dilated, the use of the fingers to dilate, the giving of ergot in the first stages of labor, are all causes of laceration, and thus far the physician is responsible. In the case of slowly dilating os with strong pains we are sometimes able with local measures to assist the relaxation and dilation of the os but further than that we can not go.

The next question is, Is the physician to be held responsible who attends the woman, the cervix being lacerated and he not discovering or notifying her of the lesion, taking it for granted that all lacerations ought to be repaired? I have always believed that "meddlesome midwifery" was bad; I have always believed that the less digital examination was made the less liability there was of septic infection, and I never can believe that the obstetrician is justified in introducing his fingers immediately after parturition when the parts are raw, lacerated, and in such an excellent condition to absorb septic matter. Again, in case of laceration it is sometimes impossible to discover it on account of the tumefied, patulous and generally contused condition. In case there is a laceration, how do we know but it will all heal up, for certainly there are lacerations and more than we probably imagine, that heal and leave no scar. Dr. Cleveland and others have urged that in every case of confinement the cervix ought to be examined and if torn repaired immediately. Dr. C. E. Ruth, of Keokuk, Iowa,[5] says: "All women should be examined in two weeks after delivery and all lacerations of the cervix repaired before the woman is allowed to be on her feet, especially if the tears be laterally placed." Aside from the reason given above, the tissues are too soft and the sutures are most likely to cut through. But what about examining the patient after she is up and around? Are we to tell every woman what *may* have occurred and what *may* result if such a lesion is present? For our future reputation and the patient's good, I certainly think we ought to tell her what possibly may happen if the tear is left, and what she can have done to prevent its occurrence.

Laceration is often followed by subinvolution, by a chronic inflammatory condition of the neck and body of the uterus, and by hyperplasia of the glands of the mucous membrane. This condition may produce about every ailment that afflicts a woman and these are legion. The cervix is richly supplied by the sympathetic nervous system and anything that affects the cervix is liable to manifest itself in distant reflex symptoms. These may be obscure pains in the back, groin and pelvis, bearing down pains, disordered menstruation, irritability of bladder and rectum, leucorrhea, a continued feeling of lassitude and weakness and general malaise. The cervix in its healthy condition and covered with its normal membrane is but slightly sensitive, but when it is inflamed or denuded of its membrane it is often excessively tender. In this condition there may be not only distant reflex symptoms but severe local pain and tenderness. After laceration the body of the uterus does not undergo the normal involution but remains or becomes large, heavy and congested and a seat of chronic inflammation. Year by year this heaviness gradually overcomes the natural supports, and falling of the womb is an almost sure

[3] Lancet, Feb. 4, 1888, page 231.
[4] Berl. Klin. Woch., 1887, No. 41.
[5] JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Sept. 8, 1894.

result, if not total procidentia. Metrorrhagia, or menorrhagia is often tracable to the laceration producing anemia with its train of symptoms. Sterility is often caused by laceration, although Hewitt's assertion[6] that sterility results in 71.34 per cent. where the cervix was so injured is probably exaggerated. Abortions also are a fruitful result of this trouble. Leroty, in a thesis published in Paris in 1878 on "Hypertrophies of the Vaginal Portion of Neck," in which he describes beautifully the condition of laceration but does not recognize it as such or even mention such an occurrence, says: "One is struck by the large number of abortions which it seems to have produced." As long ago as 1856, Dr. A. K. Gardner, of New York, wrote: "Among the married, lacerations of the os and cervix in a first confinement are not unfrequently followed by subsequent barrenness, the accompanying symptoms being those of dysmenorrhea and the severest forms of uterine diseases, profuse leucorrhea," etc. Noble, of Atlanta,[7] Ga., says: "There is no trouble so likely to cause premature expulsion of the ovum as a lacerated cervix. In pregnancy the engorgement and eversion is greatly intensified and the lips swell and roll from the turgescence and irritation." I might elaborate on the sequelæ and symptoms resulting from laceration, but the above is sufficient to show that the results are bad enough for us to consider well our duty in the matter. Therefore I believe it is the duty of the accoucheur to examine the woman after he has given nature time enough to repair the damage she has done, and if a laceration of the second or third degree exists, operate. Understand, I am speaking now of our own cases, those we have attended in labor, or where we discover the condition within three or four months after its occurrence. The fact that she has that which may develop into, and cause innumerable afflictions, and which can be removed by a simple operation, makes it the duty of the physician to advise it. But I would not be understood as recommending that we should examine every woman who has borne children to see if she has a laceration, and if we have to operate. By no means. I believe trachelorrhaphy is being done more often where it is not necessary than it is not done where it ought to be.

Dr. Howard A. Kelley[8] makes the following classification: 1, where the cervix although lacerated remains soft and flaccid, there will be no consequent symptoms; 2, when cicatricial tissue is developed or ectropion is present, marked reflex symptoms will ensue; and 3, when there has been natural repair but with inclusion or formation of hard or scar tissue there will be marked reflex symptoms. He advises operation in the last two classes.

The question "when to operate," in old standing cases, ought not to be hard to answer, and yet it is and has been a cause for considerable discussion. There are no hard and fast lines to draw from, but the general rule to operate only when there is a probability that the laceration is doing harm, is a good one to follow. In laceration of the third degree—that is to the vaginal border or cul-de-sac—we ought to operate if the woman is under 40, for if there is not trouble already the probability is there will be. It has been said that an operation in the first degree where the laceration is but slight, is never called for. Yet we sometimes find a very slight laceration causing exquisite tenderness and bad reflex symptoms. The tenderness is as great as, and the appearance often simulates, the ordinary rectal fissure. In the stellate form, from the nature of the case, the results are not as deep as they seldom need an operation.

We need not enter into a discussion as to whether cancer of the cervix is caused by laceration or not. While dozens of articles have been written to prove that it is never caused by that lesion, because it is sometimes discovered where laceration does not exist, still the preponderance of evidence is decidedly to the opposite view. At least the assertion of Munde may be accepted as true when he says that a malignant growth is more sure to develop on a lacerated than on a normal cervix. Emmett's[9] assertion that nearly all, if not all, cases of epithelioma or cauliflower growth have their exciting cause or origin in a laceration of the cervix, is certainly a strong one in the opposite direction. If this were true he ought decidedly to have urged that every laceration should be operated on, whereas he claims, and probably with truth, that not more than half the cases need the operation.

The technique of the operation is simple, yet failure often results from neglecting little things. In the first place the parts must be in such a condition that healing will take place. In certain forms of endometritis, failure is very likely to ensue if this is not eradicated. Where there are granulations on the lips we may expect that they have extended into the endometrium which will result in menorrhagia and irritating catarrh resulting in non-union. In the latter case I always dilate, curette and thoroughly wash out the cavity with a mild bichlorid solution at time of operation. Ordinarily three or four local treatments will put the patient in satisfactory condition, although rest in bed with hot douches for a week or ten days may be necessary. But first cure the catarrh, then remove the cause by curing the laceration. One especial point, to remember, however, is to thoroughly remove the hyperplastic, or so-called cicatricial tissue from the angles of the womb. More failures to effect a cure of the symptoms result from neglecting this than any other thing. It is necessary to thoroughly cut into the angle of the fissure to remove all the adventitious tissue. Neglecting to do this might result in the operation doing more harm than good. If union did not take place it would be lucky for the patient, for in case of healing this tissue would be liable to produce a train of reflex symptoms that would leave her worse off than before. There is little danger of going too high. If the circular artery is cut, a suture rightly placed will check the hemorrhage. Bleeding, aside from this, can be checked with hot water. Care must be taken to prevent too much narrowing of the os externum, preventing free drainage of uterine secretions. Great injury may be done by pulling the uterus down too much. Ordinarily there is not very much pain from the cutting or suturing, but the strained position, the speculum, etc., will often make it necessary to give an anesthetic. I have operated several times without, but I believe it is more satisfactory to both operator and patient that she be anesthetized. Until the last two years I have used silk sutures as prepared

[6] Diseases of Women, page 417.
[7] Medical Record, September, 1889
[8] Journal of Obstetrics, 1886.
[9] Gynecology, 1884, page 509.

by Dr. Skene, but recently I have used silver wire and believe I like it better. After the operation pack the vagina loosely with iodoform gauze which is left in for two or three days, giving an injection daily for, say a week, after its removal. The stitches are left in from five to eight days although no harm is done by leaving them longer.

In conclusion, let me say that I have never done an operation for a lacerated cervix where the patient did not rejoice that she had it done, and my experience makes me feel like heartily indorsing Munde when he says: "In my opinion the operation for laceration of the cervix, as introduced by Dr. Emmett, is one of the greatest triumphs of gynecology in the last quarter of a century." At the same time I would not be understood as urging the operation when it is not necessary.

THE INTRA-UTERINE TAMPON.

BY S. W. RANSON, M.D.
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The gynecologist has for years been fully alive to the valuable therapeutic properties of the intra-uterine tampons, both after operations on the non-puerperal uterus, and for diseased conditions of this organ, so that it is now almost routine practice to employ it to control hemorrhage, promote involution, stimulate healthy granulations, and maintain permanent drainage.

The obstetrician and general practitioner have, however, shown a temerity, amounting almost to reverence for the puerperal uterus that has kept them from the use of this valuable agent in similar conditions to which the gynecologist has applied it.

I shall not now endeavor to show the value of the intra-uterine tampon in the accidental hemorrhages of labor at term, but will confine this short paper to its use in unpreventable abortion.

"Straus and Toledo have found that microbes do not occur either in the parietes or secretions of the normal uterus, and it is only in the vagina where there are accumulations of epithelial masses that the bacteria find a favorable medium upon which to develop. In normal vaginal secretion the vaginal bacillus of Doderlein is regularly found and the thrush fungus and yeast cells, are often met with, while staphylococcus, pyogenus albus, citreus and aureus are no rarities."—(Schenk). Recent bacteriologic investigations to which I am not at this time able to refer, have demonstrated that the normal vaginal bacilli undergo alteration as pregnancy advances. So regular and progressive are these changes that their character can be noted from week to week. They become softened and lose their activity until, at term, they are practically innocuous.

May not this be one explanation why sepsis is much more liable to occur after abortion than after labor at term?

In treating cases of abortion we ought to recognize this fact, that it is only the healthy normal uterus that is free from danger of sepsis. That as soon as there sets up a pathologic condition such as we have in abortion, especially if any of the secundines remain, we have within the uterine cavity a culture medium favorable for the propagation and growth of bacilli, and their migration to and development in this organ are an assured fact unless nature or art interposes to remove the secundines and stimulate the uterus to normal healthy secretion. If we remember the additional fact that up to the third month there is no placenta. That previous to this time the ovum may pass through a small os, so small as to barely admit a uterine sound, and that the decidua vera must be expelled before the abortion is completed. That even after the formation of the placenta the fetus may pass, and the os close so as to prevent the introduction of a finger or placental forceps. That when the finger can be introduced the placenta may be attached to the fundus out of reach of the finger even though forcible bimanual efforts are made to remove it. Add to this the further fact that in the early months of pregnancy the cervix retains its full length, the os is rigid, the uterus has not undergone that hypertrophic muscular development characteristic of the later months of pregnancy. Hence cleavage and expulsion of the placenta and secundines are necessarily slow and difficult.

Two methods of treatment of unpreventable abortion have been in practice for many years: 1, the expectant plan which consists of ergot, vaginal and intra-uterine douch and vaginal tampon; 2, the active plan which consists in the speedy emptying of the uterus with finger, placental forceps, curette or by expression. The objections to the expectant plan are that it exposes patient to danger of hemorrhage and sepsis, while it involves loss of time to patient and anxiety to patient and physician. The objections to the active treatment mentioned are: 1, to be successfully done requires considerable dilatation of the os, a condition not commonly found in most cases of abortion; 2, an anesthetic will be required if the divulsors have to be used for dilation, or great force in extraction of placenta with fingers, or the curette used; 3, the use of the curette which is the most efficient and certain is unsafe in inexperienced hands, while neither finger nor placental forceps can remove the decidua vera if still adherent.

Four years ago, while attending a case of retained placenta after abortion, it occurred to me that to tampon the uterus with gauze would prevent sepsis and hemorrhage, and promote uterine contractions to expel the placenta.

The introduction of the intra-uterine tampon was followed by vigorous contractions and expulsion of tampon and secundines in about three hours.

Since that time it has been almost routine practice with me to employ the tampon in every case where I could not easily remove secundines with fingers. If the os is dilated so as to admit a finger it is a very easy matter to pack the uterus, but if undilated, or only slightly so it is more difficult. But with speculum to expose the os, tenaculum to steady it and straighten neck with body, a uterine sound and slim pair of dressing forceps and six or eight feet of iodoform gauze one-half to one inch wide, I have found little difficulty in tamponing any uterus, where a pair of dressing forceps could be barely inserted. I have always endeavored to fill the uterine cavity with one continuous piece of gauze, and leave an end hanging from the os. I then place a pledget of gauze against the os and tampon the vagina with absorbent cotton.

Careful preparation must be made, an antiseptic vaginal douch given, and strict asepsis enforced. Having carefully tamponed the uterus under strict antiseptic precautions, the physician may rest assured that his patient is perfectly safe, and can leave her bedside and attend to other duties. If the case

is near, and the physician not pressed for time, he may call again in six to twelve hours, but if otherwise, he may defer his visit for twenty-four hours.

If the case is at the third month or later, and no opiates or other anodynes have been recently given, prompt uterine contractions will take place expelling the tampon and secundines in three to six hours. If the abortion is before the third month, especially if during the first weeks, the uterine contractions will not be so prompt and expulsive, but in a large percentage of cases it will be sufficient to empty the uterus in twenty-four hours. At your first visit after tamponing the uterus, if active pains have come on and subsided for one hour, remove the vaginal tampon. If you can not get a history of expulsive pains let the vaginal tampon remain for twenty-four hours, when it should be removed. If the intra-uterine tampon has not been expelled, re-pack the vagina and leave the intra-uterine tampon in place for one to two days more, when, if not expelled, it may be removed by traction on end of gauze, hanging from uterus. The decidua vera will come with it, being forced into the meshes of gauze. A vaginal douch may now be given, strict asepsis maintained for a week or more, and the case discontinued.

In conclusion, I beg leave to make the following claims for the superiority of the intra-uterine tampon over all other methods of treatment of retained secundines of abortion:

1. Insecurity from danger of sepsis and hemorrhage.
2. Requires but slight dilatation of the os, consequently it is applicable to every case where sepsis does not already exist.
3. Is not painful, hence does not require an anesthetic.
4. Produces no traumatism.
5. The ease and safety of its application by every physician.
6. It favors prompt involution and normal healthy secretions of the uterus.

SOCIETY PROCEEDINGS.

American Public Health Association.

Twenty-second Annual Meeting, held at Montreal, Canada, Sept. 25–28, 1894.

(*Continued from page 588.*)

WEDNESDAY EVENING.

The evening's session convened shortly after 8 o'clock, President LaChapelle presiding. As the public was especially invited, the Association Hall of the Y. M. C. A. Building contained a large number of ladies, and members and their friends.

DR. FREDERICK MONTIZAMBERT, General Superintendent Canadian Quarantines, delivered a lecture on

QUARANTINE APPLIANCES.

The subject was illustrated by lantern slides as used at Grosse Isle. The subjoined is a brief description of the illustrations:

General view of the quarantine station in the St. Lawrence River, thirty miles below Quebec; a profile view of the island showing detention buildings, hospital, etc.; view of the hospital (100 beds); same building from another view; disinfection room in hospital; ambulance to go to wharf; view of central part of station; view of same building and doctors' quarters; eastern part of central division and disinfection building; same building for first class passengers; steam disinfecting building; front of three boilers of 40-horse power each; one of the chambers open; a chamber with railroad track standing in it; a telemometer with figures on dial, etc.; one of the dials of the telemometer greatly enlarged; a small detention building for steerage passengers; inside of a shed for use of steerage passengers; a view of a spot of historical interest when, during the famine in Ireland in 1847, Irish immigrants died of typhus fever and were buried there; closer view of same, and monument erected in memory of the medical officers who contracted the disease while administering to those that fled from pestilence and famine in Ireland, who also succumbed to the disease. In all, 5,424 persons found a grave in America at that place during the latter part of May, June, July, August of that year; a view of one of the quarantine disinfecting steamers; a view of one of these steamers alongside of a ship; the other disinfecting steamer, the *Challenger*, which has a ship's cabin only and carries all the appliances to disinfect a steamship; two of the men with jars containing mercuric chlorid solutions, proper steam dredge and pipes, etc.; same view reversed, also to show in the distance where the work of disinfection is done.

The methods of steam sterilization were especially dwelt upon, in addition to which Dr. Montizambert stated: "It may be within the recollection of some of my hearers that last summer remarks were made in some of the papers about a party of Poles who were stated to have evaded quarantine inspection and disinfection at Quebec. Now, it is impossible for immigrants to avoid or evade the quarantine inspection, because no immigrants arrive by the St. Lawrence except in a ship, and no ship from outside Canada can make customs entry at the port of Quebec or Montreal without exhibiting, as the very first paper called for, the certificate of its inspection at and discharge from quarantine. This is under a penalty of the Collector of Customs or customs officer, of $400 and imprisonment for six months for allowing customs entry of any vessel in the absence of the production of a quarantine clearance in accordance with the requirements of the regulations. And this is not simply an enactment hidden away in the printed regulations, and unknown to those who have not occasion to study them, but it is quoted in full upon the face of every quarantine clearance, so that it is being kept continuously under the notice of the pilots, captains and customs officials. Furthermore, in the case of all passenger vessels, the clearance granted by the quarantine officer is conditional on the landing of immigrants and their luggage at the disinfection sub-stations at Quebec and Levis at the deep-water termini of the railways. The supervising officer of such disinfection has to count the immigrants as they land, and if he finds the number tallies with that marked on the clearance of the quarantine officer (the whole number on board, or those from infected countries as at present), and has satisfactory evidence that all their luggage has been landed with them, he shall punch the clearance at the place marked for that purpose, which shall then alone become valid for customs entry.

"So you see evasion is impossible on account of the safeguards with which the Dominion Government has surrounded the processes of inspection and disinfection. Intentional removal of evidence of disinfection we can not guard against. It was thus with those Poles to whom I referred, who were found at Toronto without their luggage, bearing evidence of disinfection. They had been inspected at quarantine, and their luggage had been sterilized and tagged at Quebec. There was the interval from Tuesday morning at 7, to the Sunday following between their leaving Quebec and their being found at Toronto. During this time they are stated to have undertaken work at Cornwall and from thence to have been taken on by a 'boss' to work in the States. This being so, they would naturally remove all possible traces of recent arrival, so as to evade the alien contract labor law at the frontier. We inspect, we disinfect, we tag, we warn immigrants to preserve the evidences of disinfection, and we provide against accidental loss of these by the use of a stamped seal and almost unbreakable wire attachment; but we can not prevent the intentional removal of the tags, once the luggage has been claimed by its owner and removed. Dr. Montizambert referred to the wish that he, like other sanitarians, entertained, that the word quarantine could be dispensed with. It was founded on an idea which science had outgrown, and its retention caused modern methods to inherit, undeservedly, the objections rightly urged against the old. The key-note of the old system was prolonged detention; that of the modern system was prompt disinfection."

In conclusion, Dr. Montizambert reminded his hearers that there must always be the possibility of exotic disease passing the quarantine barriers in an invisible and unrecog-

nizable stage and condition, and first declaring itself in the interior of the country. This could not be entirely avoided without such routine detention and disinfection of all vessels, passengers, and merchandise at the ports of arrival, and such consequent interference with trade and commerce, as would be quite unjustifiable and impracticable. "Quarantines," he said, "may be held accountable for dealing with actual cases of infectious disease, with infected vessels and effects, and those suspected of being infected, but they must not be expected to do the impossible, nor should they be leaned upon as an excuse for lessened effort inland. Coast quarantines and inland health organizations must form our double line of defense, or, to borrow an illustration from the game of cricket, the coast quarantine is the wicket-keeper and the health board the long-stop. But the well equipped and well worked quarantine can, and should, strain out and protect the country from a very large percentage indeed of the exotic diseases which threaten it from time to time, and so do a great and very valuable work. I think that from what you have heard and seen this evening you will agree with me that the Dominion Government has placed the quarantine service of the St. Lawrence in a condition thoroughly to perform its onerous and important duties, and to be an actual and potent protection to this country. And as the people of Canada and the United States become more generally acquainted with the manner in which work is really done at our ports, and the safeguards the Government has provided to prevent the evasion of quarantine inspection and disinfection, there will be an ever increasing confidence in the quarantine service and leave less and less unnecessary uneasiness and fear for themselves."

The succeeding paper was on

SOME POINTS IN THE HYGIENE OF THE YOUNG IN SCHOOLS,

Illustrated and read by DR. J. CHALMERS CAMERON, Professor of Obstetrics and Diseases of Children, McGill University, Montreal. The paper was a distinct arraignment of school boards for neglecting to provide hygienic appliances. The lecturer pointed out that some thirty years ago it was remarked by Mr. Herbert Spencer that the first requisite of success in life is to be a good animal, and that to be a nation of good animals is the first condition to national prosperity. As the nation is an aggregation of individuals, the history of the nation is in a certain sense the history of its individual merits. Its strength, progress and development depended upon the strength, progress and development of its members; therefore, other things being equal, that nation will be most prosperous which secures the highest development for its members. From the age of 4 or 5 up to 15 or 16, the period of active growth and development, most children are at school, being educated and trained for their life work. If the schools fulfil their important functions well and turn out their scholars good animals, well equipped for the battle of life, the first condition of national prosperity will have been attained; but in whatever degree they fail to secure the best results, in the same degree will they hinder national progress.

It seems, therefore, peculiarly fitting that the American Public Health Association should examine carefully the methods of the public schools and inquire whether the best possible is being done, and whether sufficient attention is being paid to the all-important matter of hy-hygiene. However we may theorize as to the nature of man, we can at least distinguish two essential parts, mind and body; and however we may speculate as to their essence and mode of union, we know at least that all life long they are linked together for weal or for woe—they develop together, mature together, decay together, ever dependent upon each other, reacting upon each other, sympathizing with each other, suffering with each other. When we strengthen the body we invigorate the mind; when we starve and neglect the body, we starve and enfeeble the mind. It follows, therefore, that for the proper development of the individual, the body must be considered and cared for, as well as the mind. According to Nature's plan, body and mind develop simultaneously, not alternately. While bone and muscle, nerve and gland are growing and specializing, the child is busy observing, testing, comparing, gaining a knowledge of his environment and learning to reason and think. So the process goes on, but by-and-by the child is sent to school. Is the same plan of development continued? Do our school boards realize that education should look to the physical as well as the mental needs of their scholars, and that strong bodies are as essential to success in life as well stored minds?

When we look at the curriculum of our schools, we find no lack of studies; perhaps the courses are too extensive, and too much is being attempted. We find that the scholars are carefully graded and arranged in various forms and classes; that their work is thoroughly systematized and that they are taught and examined *secundum artem*. All are cared for, none are overlooked. But in how many schools is adequate attention paid to the physique of the scholars? In how many is their physical condition examined and studied? Before they are promoted to a higher form they must obtain a certain percentage of marks in their examination, and demonstrate their ability to undertake more advanced work. But is there ever a question as to their physical ability for the new work? At the end of the year they are examined to determine their scholastic proficiency. Is there ever a question as to how the body has fared meanwhile? Some schools have playgrounds and give a recess presumably for play, but play is optional—the children may play or not as they please—there is no grading, no direction or supervision. Some schools have a gymnasium, but in how many is there a competent instructor to examine the scholars and grade or supervise their work? What sort of progress would there be in a school if the scholars were allowed to choose whatever studies they pleased, go into whatever classes they pleased, and study or not as they pleased? And in like manner what sort of bodily development can be expected when the arrangements for physical training are so crude and unsatisfactory? In respect to physical culture our educational system is sadly deficient. Childhood is the time to detect and prevent such deformities as spinal curvature and pelvic deformity.

Not only should children be taught in school how to stand, sit and walk, but more important still, they should be taught how to breathe. In the larger cities a valuable addition to the educational staff would be an inspector of physical culture. School desks are responsible for a good deal of deformity. The desks and seats are of uniform height, while the pupils are of various sizes. If too tall the children must stoop; if too short they must reach up somehow. No matter whether the spine is curved or the shoulder raised, the chest is compressed. Could not there be, asked the Doctor, some simple arrangement of raising and lowering the desks and seats like a piano stool? The Doctor considered the bar-bell exercise as most generally applicable to school work. Physical exercise in schools should aim to cultivate the habit of sitting, standing, walking and breathing properly. A child that sits improperly is apt to stand and walk improperly. If the bad havit is not corrected more or less permanent spinal curvature is apt to result.

Much has been done in investigating the causes of disease and preventing the spread of infection. Can we not go a step further and develop in children strong bodies which will resist the inroads of disease? Bacteriology has taught us that many diseases are directly traceable to the action of microbes introduced into the body from without. The seed, the infective microbe, is one factor; the suitable soil, the debilitated body, is the other factor. Dazzled by the brilliant discoveries of bacteriology, have we not overlooked somewhat the necessity of rendering the soil unsuitable for the growth of the seed by developing the existing powers of the human body? If we attack the problem from both sides, its solution will be easier and more satisfactory. We live in an age of restless activity; now, more than ever, is there need for strong physical frames to bear up in the ever increasing struggle of life. Now, more than ever, are men and women breaking down in middle life, their usefulness cut short when they have become most valuable to society and the State. Now, more than ever, is the battle to the strong, and staying power is essential.

The next paper was by MR. JOHN MITCHELL, President of the National Association of Master Plumbers, New York. The author said he would recommend that annual or semi-annual inspection of old buildings be made. A plea was made for the support of the Association in procuring certain legislation desired by the plumbers of the United States. The paper also pointed out the close relation between honest plumbing and sanitation, and closed by suggesting the passing of a resolution urging the members to exert themselves for the enactment of a law that "pure air and pure water shall abound in every home."

DR. ARTHUR R. REYNOLDS, Commissioner of Health, Chicago, said, in accordance with the suggestion of the reader of the paper, he desired to offer the following resolution:

Resolved, That the American Public Health Association, in convention assembled, approve and recommend the enactment of sanitary plumbing and drainage laws in the

future construction of our buildings for the better protection of the health of our people."

Under the rules, this was referred to the Executive Committee without debate.

INFLUENCE OF INEBRIETY ON THE PUBLIC HEALTH

Was read by DR. T. D. CROTHERS, Superintendent Walnut Lodge Hospital, Hartford, Conn. This was the last paper presented at this session. Among other things he said: The contagion of saloons is like an infection. Inebriates and saloon-keepers were the prominent factors in the recent riots of our country. For 2,000 years this subject has been studied, accepted and denied. A summary of these conclusions is given here: Inebriates in the pauper class should be under legal restraint, as they are dependents and are parasites. They could be organized into self-supporting colonies and producers. They should have medical care and be under military restraint. There are 500,000 of this class in this country. What an army! Their conduct should be studied from a physical standpoint. Moderate drinkers were included with those who were a standing menace to public health. Drunkenness he considered as much a subject for isolation and quarantine as persons afflicted with the cholera or smallpox.

DR. GIHON inquired of the essayist if he intended to classify inebriates and moderate drinkers and occasional drinkers all within one category. If so, he thought that the paper was better suited for a temperance society than for this Association.

DR. CROTHERS replied that occasional drinkers are periodic and spasmodic drinkers, while moderate drinkers are those who imbibe five or six times daily.

At 10:15 o'clock the Association adjourned.

THIRD DAY—THURSDAY SESSION.

The Association was called to order at 10 o'clock by the President. The first business was the announcement by the Chairman of the Local Committee, Dr. Craik, who, in reminding the meeting of the *conversazione* and reception to be given to the members of the Association at McGill College to-night, said that he wished them to consider this as University day. The grounds and buildings would be open all day for inspection, and it is hoped that all would take advantage of the opportunity to look into the Science Buildings and the Peter Redpath Museum, which in some respects could not be excelled on the continent. Their attention was particularly drawn to the collection of shells in the Museum. The medical buildings, with the modesty characteristic of the profession, were situated in the background. They would also be welcome this afternoon at the Royal Victoria Hospital. The ladies Dr. Craik reminded the gentlemen, were not to be left behind. And if any of the members wished to inspect the new incinerator at the Gregory farm, everything would be explained and made interesting to them through arrangements made by the city engineer. All who intended to go to Grosse Isle would require to send in their names beforehand. The boat would stop at Quebec on the way down, so that those who desire it may stop over till its return.

SECRETARY WATSON read the following telegram, dated Mexico, September 26, in response to the resolution sent by the Association on Tuesday to the Mexican *confreres* who were unable to attend:

"Special circumstances painfully prevented us from meeting you at Montreal. We hope to have the pleasure of shaking hands with you at our next meeting.

"MANUEL CARMONA Y VALLE,
"EDUARDO LICEAGA,
"DOMINGO ORVANANOS."

The next order of business was the report of the Treasurer, Dr. Henry D. Holton, of Brattleboro, Vt., which is as follows:

Receipts 1893, to Sept. 24, 1894	$2,154.37.
Cash received from sale of volumes	74.00.
Cash received from annual dues	1,405.25.
Total	$3,633.62.
Disbursements, itemized total	$2,266.38.
Cash on hand Sept. 24, 1894	$1,367.24.

The report was referred to an auditing committee, consisting of Drs. J. N. McCormack, Henry I. Bahnson, and J. Berrien Lindsley.

The Secretary read a report on the subject of "A Journal of the American Public Health Association." He recommended the publication of a quarterly journal or magazine to be issued in January, April, July and October, to supersede the annual volume. A quarterly journal would cost $464 less than the annual proceedings, and these figures would secure 100 additional copies for distribution among libraries, etc. A journal of this kind would be more popular in character, and enhance the reputation of the Association, so that it would receive the recognition that it merits, as well as secure for it an increased power in sanitary matters. The suggestion was favorably received, but upon motion, it was referred to the Advisory Council for consideration, which met at 3:30 o'clock that afternoon.

DR. E. R. CAMPBELL, of Bellows Falls, Vt., drew attention to the last paper read at last evening's session. He moved the following resolution:

"*Resolved*, That the American Public Health Association in convention assembled records its protest against the use of alcoholic liquor as a beverage, especially among the young, believing that such use is attended with great danger to the health, the individual and society."

The resolution was referred to the Executive Committee.

The following resolution, moved by Dr. Henry Sewell, of Denver, Col., was also referred to the Executive Committee:

"*Resolved*, That a committee consisting of not more than five members be appointed by the President of the American Public Health Association to consider the best form of sanatoria for consumptive invalids, and the most favorable locations for the same within the United States, the report of the committee to be made at the meeting of the Association held in 1895."

DR. GEORGE HOMAN, of St. Louis, Mo., offered the following resolution:

"WHEREAS, It is the sense of the American Public Health Association that the pollution of potable waters in America has reached such a point that the national governments should be asked to take cognizance of the matter with the view of devising means of prevention and relief; therefore be it

"*Resolved*, That this Association memorialize the Congress of the United States and ask that they shall authorize the appointment of a competent commission clothed with power to fully investigate the whole subject of the pollution of rivers and lakes by municipal and manufacturing waste, and provided with sufficient means to enable them to conduct the examination in such manner as shall be deemed best, the results of said examination to be published from time to time for the public information."

Which was referred without debate to the Executive Committee, owing to the lateness of the hour of adjournment at last evening's session.

DR. J. G. ADAMS, of Toronto, presented a paper on "The Condition of the Children's Teeth of the Present Day, and the Effects of Decayed Teeth on the Health of the Children," which was read by title.

DR. RALPH WALSH, of Washington, D. C., read a paper

ON VACCINE AND VACCINATION,

which was deferred from the Wednesday forenoon session. The reader maintained that there is absolutely no danger in vaccination so long as the virus is pure and the operation properly performed. During epidemics, vaccinations are hastily performed and often there is no after inspection. The lymph used may be very feeble or the operation badly done. The remedies are, honest responsibility resting upon the part of the propagation of vaccine, and the physician who uses it. The writer's conclusions summarized are as follows: So-called cow-pox is modified variola; the admixture of glycerin with vaccine lymph will destroy all "extraneous bacteria" without injury to its peculiar active principles; the admixture of glycerin with vaccine lymph not only destroys the extraneous bacteria but prolongs the activity of the lymph; the selection of the lymph and the simple but important operation of vaccination has not received from the profession the attention it deserves; the physician should see that each infant brought under his care is successfully vaccinated during the first year of its life, and each child again at 16, or better, to the point of saturation during infancy; the accommulation of unvaccinated material and consequently the increased danger of outbreaks of smallpox is caused by the general practitioner neglecting to perform his duty at the proper time.

The paper was briefly discussed by Dr. Roberts, of New York, who explained that the "raspberry mark" was due to a rupture of a capillary or several capillaries, during the operation.

The next paper on "Car Sanitation; the Present Sleeper," by DR. JAMES PATTERSON, of Winnipeg, Chairman Provincial Board of Health of Manitoba, was on account of the absence of the author read by title.

Dr. Granville P. Conn, of Concord, N. H., presented the report on Car Sanitation. (This report will be printed hereafter.)

In the brief discussion that followed, Dr. Gihon said the problem of car ventilation had been solved several years ago. He held that the railways were criminally negligent in failing to provide their cars with an efficient ventilator, for a suitable one had been tested by this Association at Charleston, S. C., a few years ago when it met there. The trouble was the expense; the railways must be made to overlook that in the cause of public health. The present unsanitary condition of railway cars is simply scandalous. When coming to Montreal he had been in a Wagner car, the air of which was so atrociously foul that he awoke in the morning with an unbearable headache. He would like some attention paid to the cars which with their filthy floors are simply hot-beds of disease, especially when the means of propagating consumption and other communicable diseases are considered. In France, spitting on the floors is prohibited. On this continent, syphilitics and others, are allowed to spit on the floors of street cars at their own will.

Dr. H. B. Horlbeck, Health Officer at Charleston, S. C., indorsed very forcibly the remarks of the gentleman who had preceded him. Drs. Montizambert and Lee, also Mr. E. C. Joidan, of Portland, Me., coincided in the main with the views set forth in the chairman's report.

Dr. Conn, in closing, said he thought there should be a federal head, such as a Department or Bureau of Health having authority over these matters. He thinks if a copper covered floor is provided in passenger cars and closets it would be the most modern and ideal method in which they could be kept clean.

Dr. Felix Formento, of New Orleans, La., chairman, submitted "The Report of the International Committee on the Prevention of the Spread of Yellow Fever," of which the subjoined is an abstract:

The Committee expressed its regrets that neither Cuba or Brazil are represented at the meeting, also the absence of sanitary engineers on committee. The principal engineers and sanitarians of Cuba, Brazil and Mexico have been invited to give their views on prophylactic measures in their respective countries.

The report considered briefly the natural history, causes and nature of yellow fever, first positively recognized towards end of fifteenth century in San Domingo and Porto Rico, thence invading Mexico and Central American countries. In the seventeenth century it extended along the coast of the Atlantic as far north as Providence and Boston. It was fatal in New York in 1700 and raged a frightful epidemic in Philadelphia in 1793—(4,000 deaths in a population of 40,000 inhabitants). In 1761 it was first introduced in Havana; permanent in that city since. In 1853, from the seaports and localities near the sea, it extended in the interior at great distances, invading many Southern States. Type most malignant; large mortality. Same extension of the disease noted in 1867 and 1878, the latter the last extensive epidemic in the United States; disappeared in the North since early part of this century; occasionally a few imported cases.

In the South, yellow fever has existed almost every year up to 1878. The report gives the number of epidemics throughout the cities in the United States during the past half century. Permanent fever in Vera Cruz, Havana and Brazil; introduced in latter country as late as 1849, has become a secondary fever.

Interesting accounts of different visitations in American cities from 1693 to 1878. In the seacoast country the disease affects all ages and dates, but blacks and young children are less subject to the disease. The report speaks of the so-called immunity of the Creole or natives which really does not exist; they have become immune by a previous, generally mild attack. Children died in large numbers during epidemics (formerly) but their deaths were attributed to malarial, croup and pernicious fevers, etc.

Local favorable conditions for the development of disease; does not belong to the South, not indigenous in any part of the United States. Changing conflicting opinions in regard to quarantine, even in the South, as a preventive measure. No doubt exists any longer as to the possibility of protecting the whole country, of preventing the introduction of yellow fever among us by an efficient system of quarantine, such as exists in Louisiana; fourteen years' experience proves this; since 1878 not a case in New Orleans. Nature of the disease a specific microbe, not yet satisfactorily demonstrated, requiring special conditions of temperature, bad sanitary conditions, etc., for its development. Numerous interesting examples given of its mode of transmission through infected articles, etc.; explains the so-called immunity of Creole adults and children.

Even in real yellow fever countries (where the disease is indigenous) this immunity does not exist, as is proven by numerous instances given by Dr. Ruiz, of Vera Cruz. The disease has gradually disappeared in the North by improved local sanitation, also in Norfolk, Charleston, Savannah and Memphis. The same results will follow in indigenous yellow fever countries. Extensive engineering works, which will change the local sanitary conditions of these countries may require the assistance of their government. Governmental interference is necessary.

In the meantime, every possible sanitary improvement should be adopted. Cremation recommended; proper disinfection of excretion; paving, drainage, sewerage work, removal of all organic refuse and isolation of the sick, etc. Additional reports should be made to secure the coöperation of the governments of Cuba, Mexico, Brazil, and Central American republics. The report is highly interesting in the vital question of stamping out yellow fever from this continent.

The report was briefly discussed by Dr. Horlbeck and Dr. S. R. Olliphant, of New Orleans, President Louisiana State Board of Health, who offered the following resolution which was referred to the Executive Committee:

"*Be it Resolved*, That it is the sense of this Association, that federal surveillance, control, or interference with State quarantine service as maintained, is unwarranted and meddlesome. That the test of the efficiency of a quarantine service should be its past record, and the confidence and approval of neighboring States and other quarantine officers. That the solution of the quarantine problem should be left to the local health authorities to be worked out in accordance with their individual requirements and all progressive steps encouraged so long as such advances are made within the limits of safety. That the formulation of regulations by the U. S. Marine-Hospital Service for control of State quarantine stations without conference with the local quarantine officials is to be deprecated, and can result only in conflict between State and National authorities. That the U. S. Marine-Hospital Service has rendered valuable assistance in the way of collecting and disseminating information bearing on quarantinable disease, and that it can become otherwise useful by rendering assistance when called upon."

FINAL DISPOSAL OF GARBAGE AND REFUSE,

Was the next paper announced, which was read by Dr. N. E. Wordin, of Bridgeport, Conn., in which he advocated its destruction by incineration. He also recommended the use of domestic incinerators for the destruction of household garbage. In connection with this matter, the following resolution was offered by Dr. M. S. Inglis of Winnipeg:

"*Resolved*, That a committee of this Association be appointed by the Executive Committee for the purpose of promoting the collection and distribution of sanitary literature and health by-laws on, and regulations to, the members of this Association, to be known as the Committee on Distribution of Health Regulations and Reports. Said Committee to have power to make such financial arrangements with members as will cover the cost of such distribution."

This was followed by the reading of the report of the Committee on the Disposal of Garbage and Refuse, by Mr. Rudolph Hering, C. E., New York, Chairman. He referred to the manner of the destruction of refuse in Europe, having just returned from there, where he found that incineration is about the only system employed to get rid of garbage. There are great differences in the refuse of Europe and of America, and for that reason systems which are efficient in one place may not be in the other. He had no faith in the schemes for the disinfection of garbage. The plan of separating or reducing the garbage also offers dangers, and, all things considered, incineration seems to be the best of all systems.

The next paper presented was

THE COLLECTION AND DISPOSAL OF THE REFUSE AND GARBAGE OF LARGE CITIES AND THROUGHOUT THE COUNTRY,

By Col. W. F. Morse, of New York City, in which he remarked that New York had to deal with 6,000 loads of garbage a day, or 1,800,000 a year. The three systems at present in vogue there, are: Disposal by reduction, by cremation, and by dumping at sea; the latter method includes the use of electricity to disinfect the refuse, etc., by throwing off iodin and chlorin of the salt water; within the next six or

eight months New York will be able to announce which method is the most satisfactory.

DISCUSSION.

DR. S. H. DURGIN of Boston, stated that he was trying to introduce in his city an appliance by which all householders could dry and burn their own refuse. His device was a small cylinder to place in the kitchen furnace flue. The speaker had one in his own house. The kitchen refuse is put in this receptacle and it is placed in position, and kept there for twenty-four hours. By that time the refuse is merely a mass of carbon which burns in the fire with a pure white flame. The next day's refuse is then enclosed in the receptacle, and so on from day to day. The appliance costs about $4. He called the apparatus a drying "family garbage crematory," and exhibited photographs of same.

DR. E. S. KELLY, of Minneapolis, said that no garbage in his city is emptied into the Mississippi River; it is removed daily from the city to distance of eighteen miles on railroad cars. So, too, are dead animals removed in a similar way and are taken in separate cars. His city expends $40,000 a year to carry its refuse to this sandy tract. He mentioned, as an interesting fact, that an analysis of the water of the Mississippi below New Orleans showed it to be almost identical in composition with that of the river close to its source.

DR. T. H. MCKENZIE, of Connecticut, offered a brief paper bearing upon this subject, which was in the nature of a written discussion containing in the main, analogous suggestions, and indorsing those already known.

The succeeding paper,

INFLUENCE OF CLIMATE OF CANADA ON HEALTH,

Was read by DR. W. H. HINGSTON, in which the writer touched briefly on the geographical situation and the topography of the country, and then went on to show that, after a residence in the country of shorter or longer duration, a change in the constitution of a person could be observed. The high color which flushed the cheeks of some Europeans faded somewhat, and the skin became less soft, the hair became darker and more like the aboriginal type and the muscles were less prominent. The hot weather did not last long enough to produce any great disturbance of the liver and the cold was exhilarating. The ratio of mortality in Canada was lower than that of Great Britain, and, with the exception of Malta, this country was the healthiest station of the British army. Statistics gathered from the States showed that all constitutions were healthier as they approached the great northern lakes. Canada has no native malady. Most countries could boast of having some malady of their own; Canada had no such boast. If the health of a climate could be gathered from the natural increase of its population, Canada was one of the healthiest of countries, for the increase of its population was something enormous, especially one section of it, the offspring of 60,000 of which had, in a century and a quarter, grown to millions. There was a large death rate among children, the mortality being chiefly due to the fact that they were fed upon too strong food at too early a period. In conclusion, he said that the mortality in Canada was less in winter than in summer, which was different from most countries, and that consumption is arrested during the colder months of the year in Montreal.

The two succeeding papers were read by title, namely, "Mechanical Ventilation," by MR. RICHARD FLEMING, Engineer to the Montreal Sanitary Association; and "Breves Consideraciones sober la Fiebre Amarilla en Vera Cruz (Mexico) y su Profylaxis," por el DR. GREGORIO MENDIZABAL, Orizaba, Mexico. ("Brief Considerations on Yellow Fever in Vera Cruz, Mexico, and its Prophylaxis."

The Association adjourned at one o'clock.

THURSDAY AFTERNOON.

The Association re-convened at 3 o'clock with the President in the chair, no less than twenty papers being announced on the program, of which the first two were read by title, namely, "Hygiene in Medical Education," by DR. J. I. DESROCHES, editor of *Journal d'Hygiene Populaire*, Montreal; and "Instruction in Hygiene in Schools and Colleges," by DR. C. O. PROBST, Columbus, Ohio.

A paper on

THE ADVISABILITY OF TEACHING THE RULES AND PRINCIPLES OF HYGIENE IN THE PRIMARY SCHOOLS BY MEANS OF OBJECT LESSONS,

was read in Spanish by DR. JESUS E. MONJARAS, Inspector-General of Public Health, etc., St. Louis Potosi, Mexico. The annexed abstract is a translation from the contribution, a novel feature of which was the suggestion to teach young children a collection of facts which form the bulk of hygiene, by means of toys and magic lantern slides, so as to deprive the pupil of the unavoidable aridity and dryness of books, with the hope that a great deal more is to be attained by dint of perseverance in showing the children toy disinfecting stoves, toy sanitary water closets of different kinds, toy models of drain pipes, etc., thereby forcing them to commit to their memory a large number of words which they can not otherwise possibly understand. A few phrases of explanation from magic lantern slides are easily stored forever in their tender minds. A doll-house properly ventilated, provided with suitable sanitary appliances, in which the ground is shown drained with toy pipes, gives them a perfect idea of how a dwelling house should be built according to the best principles of hygiene; better than twenty pages of hygienic printed matter. Toy manufacturers should be encouraged to devise hygienic contrivances which will be more useful in the instruction of young pupils than the usual methods employed; besides this, their utility will occupy many leisure hours of a child from infancy until they attain 8 to 10 years of age. After they grow older and having learned these object lessons, children should be given a good general knowledge of human anatomy with a view of teaching them how to prevent the human form from deformity; the composition of the air and water with the necessity of maintaining their purity should be demonstrated, and above all, boys and girls should be taught the elements of sanitary architecture. Every good citizen should know how to intelligently do his share in preserving the public health.

The following paper was then read by title: "On Teaching the Principles of Hygiene to the Young," by DR. GEORGE G. GROFF, of the Pennsylvania State Board of Health. Then a paper on

IMPORTANCE OF TEACHING HYGIENE IN ELEMENTARY SCHOOLS

Was read by DR. S. GAUTHIER, Medical Officer of Health of Upton, Quebec.

"In the country where I live," he said; "and where I have passed sixteen years of my life, practicing the art of medicine, I must admit that I have encountered great difficulties in putting into execution the rules of the Board of Provincial Hygiene.

"In several places, burying grounds immediately adjoining the church, and even with charnel-houses under the latter, are to be seen. In my village, situated on the border of a river, the ground presents a well-marked declivity towards the shore; the bulk of the population naturally massed around the church, which is situated on an elevation and the river is on the southeast, the cemetery at the back of it, the convent to the north and the college to the west. The natural drain of all these edifices winds its course towards that part of the village where the population is more dense, thus exposing it to the pestilential emanations of the surrounding establishments.

"The infiltration of the cemetery water, which works its course through the cellars of the habitations towards the river, together with the contents of the drains of the buildings mentioned above, is a real source of infection.

"I myself was made the target of public vengeance, when I protested against the erecting of a charnel-house in the cellars of the sacristy. I must add, gentlemen, that this plan was supported by the cure of the parish and approved by an able architect of the city of Montreal; happily, the authorities of the Council of Provincial Hygiene prevented the construction of such an abomination.

"Now, our citizens are to construct an aqueduct. As regards the promoters of the project itself, they undoubtedly deserve to be congratulated; but gentlemen, I feel confident that you will be very much surprised in learning that they omitted to utilize the same excavations for the drains."

The writer closed by stating that the best way to promote this subject is to force its special study in the elementary schools, and oblige the instructors to learn it by making it a part of the curriculum of academic studies.

A paper on

INSPECTION OF SCHOOL CHILDREN WITH REFERENCE TO EYE-SIGHT,

Was then read by DR. T. D. REED, of Montreal. The writer maintained that it had been found that the conditions of town life generally, and the conditions of school life in towns especially, were distinctly unfavorable to the development and improvement of the faculty of vision. With the yearly

advance of studies in schools and colleges the number of defective eyes increases, from which it is concluded that part of the price of education as at present carried on, is damage to the delicate organs of sight. How necessary therefore that the benefits of the ophthalmic science should be afforded to the young as soon as education begins. The author pleaded for general introduction into schools of the simple tests recommended by the Anthropometric Committee of the British Association for the Advancement of Science. Refraction and eye-strain having been attended to he would urge the possibility of educating the eye in rapidity and accuracy of action. The Indian and other aborigines accustomed to exercise their vision in endeavoring to see distant game, or lurking enemies, acquire a sharpness and quickness of vision much exceeding that of modern city residents. Would it not be well to test systematically the vision of school children, and stimulate the exercise of it as a matter of competition. All the special senses are improved by exercise and many of the physical disabilities incidental to town life have been diminished by the popularity and prevalence of physical education. Prizes for accurate and extensive seeing should take a recognized place among those given at athletic contests and the first steps in such a direction should be taken at school.

The next paper in this series was

A FEW REMARKS ON SCHOOL HYGIENE,

Read by DR. T. M. BRENNAN, of Montreal. The writer held that should such matters as that of hygiene in schools not be looked into, mankind may in a few generations more be nearly extinct as regards health, and men become merely walking columns of microbes, a conglomerate of all the actually known bacilli and a host of others newly hatched or spored by cross-breeding. What fun they would have with our cells! The only way to avoid such a perambulating microbic stage is to surround the child with all the protection available; make him strong for the combat. The satisfactory teaching of hygiene should be obligatory in all schools. All persons having charge of the rearing of children should have a sound knowledge of hygienic laws. The Doctor described the "entombing of children in convents and colleges, over-crowded and often without any efficient hygienic supervision" as deplorable. He did not wish to insinuate that all scholastic institutions were unhealthy, for certainly they are becoming more inhabitable, and things are better than formerly; but he affirmed that there are great things left for hygiene to do, even in some of the best institutions. He had seen girls contract grievous ailments from which they could have been protected by timely warning and proper care. No false modesty should arise and deprive the ignorant girl of her right to protection. Each punishment, too, should receive serious study from a moral and from a hygienic standpoint. The tobacco and alcoholic habits should be strictly dealt with, and their pernicious consequences brought out. This both in girls' as well as in boys' schools. In women the habit of tippling is far more prevalent and disastrous than is generally imagined. Within the last four months he had seen four women, each the mother of several children, and moving in good society, die from the effects of chronic alcoholism. The lecturer would like to see almost every child who enters school provided with a certificate from the family doctor setting forth the weak points in the child's nature. Nobody knows the constitution of a child better than the family doctor. In each school there should be a school physician endowed with power to act. There should be some system of general hygienic supervision. The support and coöperation of local and general boards of health and of the board of public instruction should be assured.

A paper entitled

AN EPIDEMIC OF ONE HUNDRED AND TWENTY CASES OF PARALYSIS IN CHILDREN

was read by DR. ANDREW MACPHAIL, of Bishop's College. The paper contained an account of an epidemic of infantile paralysis, which occurred in the State of Vermont during July, August and September, and which Dr. MacPhail investigated. He first stated that the belief was held that it was an outbreak of cerebro-spinal meningitis, but he showed in the clearest possible manner that it was a true myelitis. He quoted the notes of 91 cases out of the 120. In some children the paralysis came on without any symptoms, in others there was a preliminary illness of a few days resembling indigestion. He described in detail the fatal cases, of which there were eighteen, and forty-two in which there was permanent paralysis. There were also notes of six cases in adults, three of which ended fatally. He then referred to the origin of the malady with full statistics of temperature, rainfall and humidity, and geologic factors. There were besides twelve deaths from the same cause among horses, and fowls were likewise affected. In conclusion he dwelt upon the necessity for having in every State a properly conducted laboratory and a competent staff to deal with such outbreaks, and a board of health with authority to investigate epidemics and perform autopsies. The paper had additional interest from the fact that this is the first epidemic of the kind reported in America and the third which has occurred in any country. Dr. MacPhail refrained from expressing any views or propounding any theories till the pathologic work which he has in hand should be completed.

The following paper was read by title: "What Organization Ought to be Given to Boards of Health?" by ROBERTO GAZOL, C.E., Mexico, Mexico. It was followed by a paper entitled

A PROVISIONAL ARRANGEMENT OF CAUSES OF DEATH,

which was read by DR. CRESSY L. WILBUR, Registrar of Vital Statistics, Michigan State Board of Health, Lansing, in which he explained the classification that he has adopted in the Michigan Registration Reports for temporary use, until a satisfactory modern classification shall be authoritatively introduced. Dr. Farr's system, the basis of the classification employed in most registration reports, is hopelessly antiquated. Many of its terms are obsolete and some are at present understood in quite other than their original meanings. The plea of uniformity has no weight at present in favor of the retention of Dr. Farr's classification, for scarcely any of the registration reports that employ it agree in the details of its use.

Two of the five great classes of Dr. Farr's original classification are especially objectionable at present, namely, "Constitutional Diseases and Developmental Diseases." The removal of tuberculosis, the type of the former class according to the pathology of fifty years ago, to specific infectious diseases, practically destroys the class. In like manner returns of "old age," "infantile" and "debility" should in most cases be regarded as equivalent to cause of death unspecified, and, thus the class of so-called "developmental diseases," largely constituted of these indefinite forms, practically disappears. Such radical changes, rendered necessary by modern knowledge of the causation of disease, quite alter the relations of the old classes, and render a new system imperative.

The provisional arrangement illustrated was intended for use in Michigan in connection with the work of the State Board of Health. Deaths from disease (deaths from violence, unknown causes and still-births being separately taxed) are divided into two lists: 1, dangerous communicable diseases, as defined by the State Board of Health under the State law providing for their restriction; and 2, diseases not so defined at present. The latter list contains certain specific infectious diseases, as pneumonia, that will probably be eventually included in the first list. The object at present is simply to illustrate the work of the State Board of Health in the prevention of those diseases which it has undertaken to restrict. Ultimately a classification of diseases may be made somewhat as follows, only the broadest outlines being suggested:

TOTAL DEATHS FROM ALL CAUSES.

A. Deaths from disease.

1. Specific infectious diseases, including all diseases in which the chief etiologic factor is one or more vegetable or animal microörganisms.

2. Local or organic diseases, consisting of all those diseases dependent chiefly on changes in the anatomic or functional constitution of the body, and not due to a specific infection.

B. Deaths from violence.

The exact form that the new classification shall take is a matter that should be settled by the Registrars—National, State, Provincial and municipal—who will be called upon to employ it in their reports. An Association of Registrars of Vital Statistics was suggested for the purpose of settling this question as well as many other points of practical importance in registration in which greater uniformity is desirable than at present prevails. Such an association would encourage a feeling of the dignity and responsibility of the work, and lead men of special fitness to engage therein. Comparison is essential to the proper interpretation of results in vital statistics, and this demands closer association and coöperation on the part of officers engaged in this work in different localities.

The next topic of interest was the report of the committee on nomenclature of diseases, and forms of statistics, presented by the Chairman DR. SAMUEL W. ABBOTT, Secretary of the State Board of Health of Boston, Mass. The Chairman recommended that nothing be done until the various medical authorities throughout the country could be communicated with, and it was so ordered. This was followed by the reading by title of the subjoined half dozen papers: "Difficulty in the Exact Diagnosis of Pathogenic Bacteria," by DR. GEORGE ADAMI;

"Notes concerning the Nourishment of Children in Their earliest Infancy, exclusive of Nursing at the Breast," by Drs. S. Arthur Simard, and R. Fortier; "Ventilation of Schools," by J. E. Doré, C.E., of Montreal; "The Burial Ground," by Dr. J. A. Beaudry, Quebec; "Prevention of Venereal Diseases," by Dr. Elzéar Pelletier, Secretary Board of Health of the Province of Quebec; "Sanitary Value of Certain Waters," by Dr. R. F. Ruttan, Quebec.

THE ADVANCES OF PUBLIC HEALTH IN THE CITY OF MONTREAL,

Was read by Dr. L. LABERGE, Medical Officer of Health of the city. He described the organization of the Health Department of the city and its history. Twenty-five years ago the Health Department of Montreal consisted of a few inspectors, who visited the yards and lanes and ordered the citizens to execute themselves the necessary cleaning. In respect of sanitary regulations Montreal had been moving backward since the days of its foundation. Under the French rules the representatives of the king prescribed to the people certain sanitary laws and ordinances which were quite sufficient to meet the requirements of such a small village as Montreal then was. The streets and yards had to be cleaned at stated periods, butchers were directed to deposit the offal of their stalls only in certain places, etc. By the English conquest, the officers whose duty it was to enforce these ordinances were removed, not to be replaced until many years afterwards by a municipal government. The justices of the peace, whose duty it was to maintain law and order under the early English *régime*, felt that they had fully accomplished their task when they had punished the more brutal forms of crime.

With such a system Montreal fell an easy prey to every form of disease. The death rate varied from 35 to 43 per 1,000 annually, and the city was indisputably the most unhealthy in the whole of North America.

The first attempt to remedy this terrible condition of affairs was made in 1874, when Dr. Hingston was elected Mayor of Montreal as the representative of the medical profession.

One of the first works undertaken to improve the hygienic condition of the city was the construction of the great sewer along Craig Street. In the early part of this century Craig Street was still occupied by a stream, which was the natural drain of the eastern and northwestern portions of the city. One of the branches of the stream started near the western extremity of St. Catherine Street and ran along the ravine now occupied by Ontario Street down to Parthenais Street, where it joined the streams coming from the north and east, then turning west crossed Papineau road at Dorchester Street, and flowed into the Craig Street valley. The united streams then flowed west to Chaboillez Square, where they fell into the stream flowing east from St. Henry, and turning south passed through the hay market and finaily fell into the St. Lawrence near Custom House Square.

This Craig Street stream having become a public nuisance it was inclosed, about 1842, in a brick sewer seven feet in diameter, which started from St. Lawrence Street and flowed west to McGill Street and down to the river. The eastern part of the city was drained by a sewer constructed along Lacroix Street in 1845, and another along Colborne Street. The object of constructing a new tunnel along Craig Street, flowing east from Victoria Square, was to prevent the pollution of the water opposite the city and to provide for the future. The work was a difficult one and it occasioned much discussion. It was finally completed on May 13, 1878. It has a diameter of eight feet and a length of 8,765 feet and cost $259,010.81.

The main sewers of the city are now considered adequate, but Mr. J. E. Doré, the City Sanitary Engineer, as well as other experts, complain of the large number of "dead ends" in the system of small sewers, the effect of these being to stop the circulation of air and to cause the gases to come up in the houses. Mr. Doré also, in this connection, complains of the want of ventilation in many houses, and says that this is due to the fact that Montreal has no by-law on plumbing. Such a by-law has been prepared by the Health Committee, and it now awaits consideration from the Council.

The beginning of the scavenger system also dates back to 1877. The work was then done by the Road Department, and was done on a very modest scale, the appropriation for that purpose being only $7,000. As a consequence of improved methods the death rate has fallen from 37 per 1000 in 1872 to 24 per 1000 in 1892.

Mr. J. E. Doré presented a report on the ventilation of schools. Mr. Doré is a champion of mechanical ventilation. He concludes thus: Natural ventilation through the windows can be employed under certain climates; but here where the difference between the temperature of the rooms and that of the outside is enormous we do not believe that it is practicable. Under such conditions, the fresh air can only be heated by mixing with the vitiated atmosphere. And we have already said that it is highly important to avoid the mixture in so far as possible. The many arrangements devised such as perforated panes, English double windows the one open at the top and the other at the bottom, openings provided with screw wheels do not change the situation. If by any means the mixture of the two airs is prevented, the result is that the fresh air arrives cold. There remains then only ventilation through chimneys and through mechanical devices. We believe that the most satisfactory solution can be reached by combining these two systems.

Mechanical ventilation is cities is not now as difficult to obtain as it was years ago. The motive power necessary to run the ventilator can be electricity, which is so conveniently and cheaply distributed. The plant costs next to nothing and the running expenses are very low. As to the advantages of the system they are so well known that we need not dwell on them.

We conclude that the mode of ventilation in buildings devoted to educational purposes, is a mechanical system which shall cause a current of from 400 to 500 cubic feet per pupil to circulate from bottom to the top, the fresh air having been heated before its introduction to about 5 degrees below the temperature to be maintained in the room. The heating apparatus placed in the rooms to compensate the loss of heat through the walls should also be planned on this basis.

The remaining papers of the session were read by French colleagues; "La Myopie dans ses rapports avec l'Hygiene Scholaire," by DR. A. A. FOUCHER, of Laval University, in which he showed that the disease was more prevalent in the secondary than in the primary schools, and suggested that greater attention be paid to the matter of lighting schools and the clearer printing of school books.

"Durée physiologique du travail au point de vue Intellectual et Physique," was read by DR. L. L. FORTIER. The only participant in the discussion was Dr. Hopkins, of New York, who while willing to acknowledge the great importance of this question of hygiene in schools, drew attention to the difficulties of teaching hygiene. Some knowledge of the physiology of sex is essential, but how is it to be taught? "How," he asked, "are you going to give the growing girl of from 14 to 16 a complete knowledge of herself and still leave her her modesty? How are we going to crowd the amount of work necessary, to do all the study considered necessary now, in the short school hours demanded by fashion nowadays and still feel confident that she at the end of the school session, will be physiologically and anatomically what she should be? How, too, are we going to remove that handicap from which the grown up woman suffers from the time she puts on the long skirt which makes prisoners of her most important limbs until she goes under the care of the specialist? How are we to give her the advantage which her brother possesses of indulging in healthy recreation?"

The speaker furthermore said in the course of a long practice among children he had never found myopia caused by study either in school or out. The reading of cheap novels he believed to be more responsible for the existence of the trouble than study.

The Association adjourned at 6:30 P.M.

(To be continued.)

Registration of Bakeries.—The London County Council has determined that the interests of the public require a regular and strict supervision of bake-houses. To this end, it has been ordered that a new system of permits or licenses shall go into effect, and that there shall be a periodical inspection by the inspectors appointed for that purpose.

THE
Journal of the American Medical Association
PUBLISHED WEEKLY.

SUBSCRIPTION PRICE, INCLUDING POSTAGE:
PER ANNUM, IN ADVANCE $5.00
SINGLE COPIES, ... 10 CENTS.
Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
No. 86 FIFTH AVENUE, CHICAGO, ILLINOIS.
W. H. LOWDERMILK & CO., WASHINGTON AGENT.

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SATURDAY, OCTOBER 20, 1894.

THE ARMY MEDICAL DEPARTMENTS OF THE EASTERN BELLIGERENTS.

Many members of the ASSOCIATION having expressed a desire to know something of the provisions made by the belligerents in the far East for the care of the sick and wounded of their armies and fleets, we have instituted inquiries at the Departments and Legations in Washington, D. C., to obtain authentic information on the subject. Details concerning medico-military matters in China are so meager that we must infer a corresponding imperfection in the provisions. A former Secretary of the U. S. Legation in Peking stated that there was no organization for the care of the wounded, and that the only medical officers in the service of China were a few Europeans who held special positions. There is no centralization in China. The armies of the various provinces are organized, armed and equipped at the will of their respective governors. According to information from the Chinese Legation, the armies of the provinces differ from each other in their medical service only in that some have none whatever while others have "a few doctors—foreigners, and some hospitals—small ones." As a rule the wounded of a victorious Chinese army lie on the field until succored by friends or comrades, or by camp followers or the non-combatants of the vicinity impressed into service for the emergency. In fact, battle-field conditions similar to those existing in Europe during the wars of the Middle Ages flourish at the present day in the "Flowery Land."

LI HUNG CHANG, Grand Secretary of State and Viceroy of the Province of Chi-li, whose official residence is at Tient-sin, and who is represented in official letters to our Government as the leading statesman and patron of progress and enlightenment in China, formed in 1889 the decision to establish a medical service for the Chinese Army and Navy on the basis of the best Western models. The plan included a Medical Department to combine both services, military and naval, at the head of which was to be a foreign surgeon-general with an adequate staff of assistants, hospitals and dispensaries at various places, a medical school and native surgeons for the fleet and military stations of North China. The Secretary obtained from our Government a complete collection of the various official publications, for several years back, of the Medical Department of our Army and Navy. In April, 1891, he expressed his great pleasure in acknowledging this courtesy from our Government and his anticipations of benefit to the newly formed Imperial Medical Department from the timely gift. The army of North China is probably the only one which has attached to it the few small hospitals and foreign medical staff mentioned by the attaché of the Chinese Legation.

It is otherwise with Japan. Its progressive government, since its establishment in 1868 on the overthrow of the power of the Tai-kun by the Mikado and the daimios or provincial princes, has built up a modern empire on the insular barbarism of ages. Every military, naval and medical school of any prominence in every country of Europe and America has been visited by young Japanese students whose aim has been to gather knowledge for the benefit of their native country, and who are now leading her armies, commanding her war vessels and, like KITASATO, studying in the advance line of modern medicine. In 1872 a French military commission was imported to organize the Army of the Mikado on a European footing. The work was accomplished in eight years. Naturally the Japanese army bears manifest traces of its French origin in its uniforms, organization, drill regulations and in the grades of its military hierarchy. The infantry regiments have each a regimental surgeon, with an assistant surgeon for each of its battalions. But there is also a strong general medical staff, its *personnel* filling all grades from the surgeon-general who has the rank and pay of a major general, to the first and second class of infirmary privates who have no more pay and allowances than soldiers of the line. The Japanese medical service was as complete at the outbreak of the war as it could be made in time of peace. It included ambulance corps and field hospitals for the immediate treatment of the injured and transportation to general hospitals removed from the seat of war. The Japanese branch of the Red Cross Society has increased its membership greatly since hostilities were begun. No foreigner holds a commission in the Japanese army or navy. Candidates for positions on the medical staff must be natives of Japan.

After passing a competitive examination the candidates have to undergo two courses of study at the governmental medical school for which $5,000 is appropriated annually in addition to the salaries of its five professors and three assistant professors. Communications are received daily at the legation in Washington, D. C., from young medical men anxious to volunteer for service in the war. The Japanese Minister appreciates the friendly sentiments of those seeking service, but explains that even Japanese doctors who desire to serve can be accepted only after examination and the regular courses of the Army School. The government is not under the necessity of employing any persons in addition to those who have been trained specially in the duties of military medical officers.

The Japanese troops are armed with the Murata rifle, invented in 1887, and named after its Japanese inventor. Its caliber is .315 inch and it carries eight rounds in its magazine. The bullet is of copper covering a core of hard lead. It weighs 238 grains and is fired with a charge of 36 grains of Wettern smokeless powder. It is probable that from the Army Medical Department of Japan we shall have our first reports on war wounds from small caliber projectiles as observed if not among their own men, at least in the cases of wounded Chinese prisoners.

WHY ARSENIC ONLY?

An apparently authentic statement has recently been made that the use of arsenic by women, to improve the complexion and personal appearance, has become so common throughout the country as to lead to an official investigation of the subject by DR. CYRUS EDSON, Health Commissioner of the city of New York, and others. These gentlemen have been "filled with alarm" by the disclosures of their investigation, and "are moving to have heroic measures adopted to put an end to the pernicious use of the drug." It is further stated that, as a result of their efforts "the health authorities of thirty of the largest cities and of nine States have combined to crush out the growing evil;" that a bill has been drafted, to be introduced in State Legislatures, designed to impose restrictions, under heavy penalties, upon the sale of the drug, except on a physician's prescription; and that the investigation was undertaken none too soon, and no measures too severe can be adopted to stamp out a habit in which "has been discovered the secret of many a mysterious death and of many an untimely-filled grave."

This is a commendable and most befitting undertaking on the part of these gentlemen. But why "arsenic" only? The same publication which furnishes the foregoing momentous information also contained a short time previous an account of the murder of a rural visitor to one of these "largest cities" under the following circumstances: He had dropped into a beer garden, where some women of the town, frequenters of the place, induced him to "treat" them to "refreshments," in paying for which he exposed a roll of currency; two of the women immediately left the place, went to a neighboring drug-store and returned in a few minutes with three powders of morphin; one of these powders was administered to the man in his next glass of beer, but not succumbing at once another powder was given him within thirty minutes, whereupon he became insensible and died in the ambulance *en route* to the hospital; the women were arrested and the two who purchased the morphin were tried, convicted of manslaughter and sentenced to the penitentiary—one for six, the other for eight years. And the druggist? He had violated no law and was guilty of no crime, either of omission or of commission, of which the courts of his locality take cognizance, and is still free to sell any lethal agent in his stock to any person in his discretion, without record or inquiry as to the identity or residence of the purchaser, credible assurance of its intended use or any other safeguard or restriction whatsoever, save that the article must be labeled "poison" and the person must *say* that he or she is more than 15 years of age and that the "poison is to be used for a legitimate purpose." But this same druggist may not, under severe penalties, sell an ounce of alcohol, whisky, wine or other fluid which may be used for intoxicating purposes—except on a physician's prescription—without being licensed so to do by the United States Government and by the municipality; nor without making, and keeping open for inspection at all times, a record of the name of the purchaser, his or her address, date of purchase, article purchased, quantity, name of salesman and intended use or purpose; nor shall he sell such article at all except for medicinal, mechanical, scientific or sacramental uses.

The condition is not peculiar to the city referred to, but is common, with few exceptions to cities, large and small, throughout the country generally. National supervision and State or municipal control interfere to prevent the druggist being an agent for the promotion of the "drink habit," but leave him practically unrestricted as the most efficient promoter of the morphin habit, the cocain habit, of chloral tippling, of opium smoking, of suicide and of murder.

Why single out the "arsenic habit" for official investigation by the heads of National and civic health services, and restrictive legislation? The whole business of the sale of poisons by druggists needs investigation and legislation, and none would welcome such action more cordially than the large majority of the druggists themselves. Such legislation should not only prohibit the sale or dispensing of any lethal or toxic agent except on a physician's pre-

scription, but should apply also to the refilling of such prescriptions without express authorization and to proprietary preparations containing such agents.

Here is a field in which the health authorities, not only of thirty cities and nine States, but of every city and of every State in the Union may find work; and there is no member of the AMERICAN MEDICAL ASSOCIATION who will not lend his assistance and bid them God speed!

THE TREASURER'S NOTICE.

Under the heading of "Association Notes" we again print the notice issued by our ASSOCIATION Treasurer who very properly gives the reasons why members in arrears should lose no time in promptly remitting the amount of their annual subscriptions due last June. Every sentiment of professional pride and ASSOCIATION fellowship should enlist our members in the good work of supporting the Trustees in their efforts to give the members and the medical profession of America one of the best medical journals in the country.

It should be a source of pride to the ASSOCIATION that its JOURNAL office is now prepared to do all the work required of it, but it must be remembered that heavy drafts on the ASSOCIATION treasury were made in order to accomplish it. The presses are paid for, and the new equipment has not a penny of indebtedness resting upon it, but it will require money to maintain the mechanical department, purchase news and keep up the standard. There will be no lack of funds if our members who were not in attendance at the last meeting will kindly respond to our worthy Treasurer's call without further delay.

CORRESPONDENCE.

Cataract Extraction an Office Operation.

Reply to Dr. T. E. Murrell by Dr. Charles W. Kollock, Charleston, S. C.

To the Editor:—In my communication to the JOURNAL some weeks ago, it did not seem necessary to enumerate and specify the reasons why extraction of cataract should not be performed in our offices or dispensaries, and the patient allowed to walk or ride some distance to his home immediately afterward. I thought that good reasons against such a proceeding would come quickly into any man's mind, but Dr. Murrell wishes them given and I shall therefore give them as they appear to me, and I think to many more who are and are not engaged in ophthalmic practice:

1. Most persons are more or less excited after an operation has been performed upon themselves, and as quiet is the best treatment for all forms of excitement it should always be advised, especially where so much depends upon the result.

2. No operator can know when he will meet with a case of fluid vitreous, and I feel sure that even Dr. Murrell will not contend that it is just as safe for such cases to walk or ride to their homes after an operation as to remain quietly in bed.

3. Many cataracts have been successfully extracted and after the operations have been entirely finished the eyes have been lost from hemorrhage caused by the rupture of a retinal vessel. An atheromatous vessel may break at any moment, and certainly such an accident is more likely to occur when the heart's action is quickened by the exercise of walking rather than when the patient remains quiet.

4. A patient upon whom the operation has been performed does not usually see well out of the fellow eye and, though he may be assisted with the utmost care, is not as safe in walking or riding to his home through crowded streets as he would be in remaining perfectly quiet. The mere fact of having had an operation performed, upon the success or non-success of which useful vision or blindness depended would tend to make one nervous and therefore more liable to accidents. Again, the class of patients who are subjected to this experiment are, I take it, not among the well-to-do or wealthy, and more frequently walk than ride to their homes which are probably in the less fashionable quarters where uneven pavements are found and shaky steps must be climbed, and I am sure this can not be called a safe and harmless proceeding.

5. Much depends upon the success of this operation, for nothing can cause the feeling of desolation and misery that blindness brings. We have been enabled to restore useful vision in the majority of those cases by performing a "neat operation," but it really seems foolhardy after having performed the operation without a mishap, to subject the patient to the many risks which even those with good vision must run in a crowded city. It seems that any one of the above reasons is sufficient for not performing the operation in our offices and dispensaries, because they all show risks and why should we take chances in such momentous cases when they are entirely unnecessary? The operation is not one of emergency and can wait until the busy surgeon finds an off day or hour for its performance.

Dr. Murrell says, "every operation on the eye is attended by some risk, and we can not always foresee where the point of danger lies, but we usually see it afterward." 'He could not have made a truer statement, but it is poor comfort to a man who loses his eye by some accident happening on his way home after the operation, and if the Doctor lives long enough and continues his present practice he will have bitter proof of his words.

As I have said before, we have no right to subject our patients, be they ever so poor and humble, to any risks we would not take ourselves, and just here I may say that Dr. Murrell has seen fit to ignore my questions as to whether he would perform the operation in his office upon a patient from whom he expected to receive a good fee, and whether he would permit himself to be operated upon under similar circumstances. This is where the shoe pinches. Are we doing conscientious and honest work when we take these risks with the poor and do not with the rich and well-to-do? I shall not comply with Dr. Murrell's request to make a test of his method, for such a test would only prove how long it might be continued before losing an eye from unnecessary risk, and I am not at all interested in such statistics or experiments.

Finally, it appears that Dr. Murrell thinks I have made an ungenerous and unwarranted attack upon him. I can only say, that when he published his views he gave them to the public, and as such they are open to criticism. No personal motives have actuated my criticisms, and having expressed my opinion upon what I considered dangerous doctrines, I shall have nothing more to say.

Colleges in "Good Standing."

SHOSHONE, IDAHO, Oct. 12, 1894.

To the Editor:—Will you be kind enough to write me what

organization or body governs the medical colleges in "good standing" of the United States, and how the State is to know the legal difference between a diploma from a college in "good standing" from one "not recognized" or fraudulent?

W. H. BAUGH, M.D.

Answer.—Each State has its own laws on the subject. For a summary of them see this JOURNAL, March 10, 1894.

Woman's Medical College of Philadelphia.

PHILADELPHIA, PA., Oct. 11, 1894.

To the Editor:—In your issue of Oct. 6, 1894, I see that you have given the Woman's Medical College of Pennsylvania an extended notice, for which we are greatly obliged, but I beg to call your attention to a very serious error, viz., you have placed our reading room fee for each of the four years at $50 instead of 50 cents, making a total of $200 instead of $2 for the course. May I ask you to correct this error and oblige,

Yours very respectfully, CLARA MARSHALL, Dean.

It was the derelict decimals.

PUBLIC HEALTH.

Imported Smallpox.—A case of smallpox was detected among the steerage passengers of the steamer *Kron Prinz Friedrich Wilhelm* arrived at New York on the 15th inst., from Naples. The vessel was disinfected and released after forty-eight hours detention, but the steerage passengers, 499 in number, were vaccinated and transferred to Hoffman's Island where they will be held under observation for two weeks.

Public Health Legislation.—At its recent meeting the Michigan State Board of Health resolved to ask the next Legislature of that State to enact laws prohibiting any person from teaching school or acting as a professional nurse without a certificate from a reputable physician that he or she is free from any communicable form of tuberculosis; and also prohibiting the sale of milk from cows that have not been examined by the tuberculin test and found free from the disease.

Statistics of Contagious Diseases.—The Council of Hygiene of Paris has decided (*Bulletin Médicale de Paris*) to issue a weekly bulletin of all contagious diseases reported in that city. Those interested in the sanitary condition of the French capital will thus have official information. In the *Bulletin* the term, "cholera," will be given under two titles, so as to avoid the confusion and uncertainty heretofore caused by failure to discriminate between genuine cholera and the choleriform diseases which are often reported as "cholera."

Vaccination with Animal Lymph.—Dr. Bordesen, in a paper read before the Copenhagen Medical Society (*Trans. Med. Soc., Copenhague*), states that at the Royal Establishment for Vaccination among 1,221 children vaccinated with bovine lymph 99.84 per cent. of the inoculations gave a positive result and in 95.9 per cent. pustules were produced. In 1893 out of 24,335 vaccinations 95.8 per cent. were successful. He attributes these results to care in the production and handling of the lymph.

Memphis Sanitation.—The Tennessee State Board of Health *Bulletin* notes with approval that the city of Memphis seems to take the lead in that part of the world in a very important feature of public sanitation, to-wit: The summary destruction of buildings unfit for human occupancy. In the daily papers of that city are to be found, from time to time, lists of houses condemned by the City Board of Health and recommended to the City Council for demolition—which the *Bulletin* says "usually follows." From being the unhealthiest city in the Mississippi Valley Memphis has become, within a dozen years or so, one of the most healthful; but it has only been by vigorous and persistent sanitary effort pushed, in the face of the most serious difficulties, by her medical profession and public-spirited citizens.

The Chaotic Confusion of the International Congress of Hygiene.—The special correspondent of the *Times* (London), September 14, last, attributes the chaotic confusion which characterized the ending of the Congress to three principal causes: 1, the overwhelming development of what may be called the picnic element. Social entertainments and amusements are a recognized part of these gatherings, and serve a useful purpose, when confined within proper limits, by bringing the members together in a friendly way; but when carried too far they distract attention from the business proper and make it impossible to carry out the proceedings in an efficient and orderly manner. A hundred distractions were organized to run simultaneously with the supposed business of the Congress, and the business went to the wall. Overwhelmed and wearied by the laborious pleasures to which the members were hurried, one after another, even those who took a real interest in the proceedings, ceased to follow them. 2, the abuse of the system of passing sectional resolutions. An enormous mass of resolutions were brought before the general conference, many of them hopelessly impracticable, some positively ridiculous, and others very ill advised. A compulsory eight-hour day for labor for instance, and free medical treatment for the poor at home as well as in hospital. If any respect is to attach to the conclusions of the Congress, as has been the case in some notable instances in the past, they must be few and practical, and passed with all the weight derived from a full sitting. 3, the enormous number of papers contributed. The azenda paper contained the titles of between eight hundred and nine hundred papers distributed over twenty-six sections, nineteen of which were devoted to hygiene and the rest to demography. In some sections many of the papers were not reached at all, and even so, there was no time for discussion. The reports of the various national committees were largely responsible for this state of things. These reports are one of the most valuable features of the Congress, but they are often exceedingly long, and before they have been got through every one is tired and all the time is gone. In the exceedingly important sitting devoted to diphtheria, for instance, the reading of the German, American and English reports fairly exhausted the patience of the crowded audience, keenly interested as it was in the subject. Surely it would be better to have abstracts of all the reports distributed and to take the papers themselves as read, passing on at once to discussion.

Prophylaxis and Cure of the Bacterial Diseases.—None but the most favorable reports of the new prophylactic and curative treatment of diphtheria continue to be recorded in our British and Continental exchanges. It has been adopted in the two hospitals for children in Berlin, and the municipal authorities of Dresden, Nordhausen, Christiana and several other cities have taken steps to supply their hospitals with the diphtheria antitoxin and to give free treatment to all diphtheritic patients. The Pasteur Institute in Paris, having expressed its regret at being unable to furnish the serum to every physician in France on account of its cost, *Figaro* opened a popular subscription for the purpose, which has since been followed by the insertion of a credit of 100,000 francs in the budget of the Chamber of Deputies, to be used, according to a dispatch of the 15th inst., in a test of the serum as a prophylactic. The British Institute of Preventive Medicine has also begun the production of the antitoxin on a large scale. Its production and use in this country, however, are still delayed, presumably, as heretofore intimated, on account of financial considerations. It is estimated that a plant for the production of the antitoxin would cost $30,000—at least that is the sum appropriated for the purpose by the New York City Health Department.

While this application of Behring's and Kitasato's theory of the treatment of bacterial diseases by the serum of immune animals is thus pronounced a brilliant success, on the other hand, Dr. Viquerat's claims of similar success in the treatment of tuberculosis by asses' serum are being subjected to skeptical criticism. These claims rest, thus far, on the results of the treatment of twenty-five cases all told, and an analysis of the cases shows ten of them to be surgical disease alleged to be tuberculosis, but of which no proof is given; while in a number of the remaining fifteen cases grave doubts are expressed as to the accuracy of the diagnosis. Koch's unfortunate experience on similar lines is recalled in connection with a previous announcement by Viquerat himself, of a therapeutic discovery which proved to be a *fiasco*. It may be that Viquerat's work is not yet fully or correctly reported; those interested in the protection of the public health can not but hope for his success; and it remains that in such work lies the promise and the potency not only of curative but of preventive medicine in dealing with the so-called zymotic diseases. For this, among other reasons, it is gratifying to learn that the reported failure of the Haffkine anti-cholera inoculations at Lucknow has been greatly exaggerated. Dr. W. J. Simpson, Medical Officer of Health for Calcutta, recently submitted to the municipality a further memorandum detailing his experience during the previous three months in that city and the observations made on the recent epidemics in Cawnpore and Dinapore. These afford strong additional evidence of the protective value of Professor Haffkine's inoculations, and Dr. Simpson shows that the Lucknow failures "only teach the necessity of using virus of a higher protective power and of having a special laboratory for its preparation," which was wanting at Lucknow.

ASSOCIATION NOTES.

Treasurer's Notice.—Members of the ASSOCIATION knowing themselves to be in arrears will please send the amount of their annual subscription to the Treasurer, HENRY P. NEWMAN, M.D., Venetian Building, Chicago, without delay.

The great expense on account of the establishment of the new JOURNAL office, makes it more than ever necessary that our members should be prompt in their response to this notice.

SOCIETY NEWS.

Northwestern Wisconsin Medical Association.—The Northwestern Wisconsin Medical Association held its quarterly meeting October 9.

Ohio County Medical Society.—The Ohio County Medical Society of W. Virginia held a meeting in Wheeling, October 4, and the following officers were elected: President, Dr. H. B. Baguley; Vice-President, Dr. Harriet Jones; Secretary, Dr. Walden: Treasurer, Dr. E. A. Hildreth; Board of Censors, Drs. R. J. Reed, R. McC. Baird and Charles Frissell.

Clark County (Ky.) Medical Association held a most interesting meeting at Charlestown October 10. About twenty physicians were present. The morning session was taken up in a discussion of two interesting cases reported by Dr. F. M. Carr, and a case of cerebral tumor reported by Dr. I. N. Ruddle. The banquet was served at the Reeves House. The after-dinner speeches were witty and wise. In the afternoon Dr. Ruddle read a paper on "The Uses and Abuses of Ergot," and Dr. Cad Jones a paper on typhoid fever. The Association adjourned to meet in Jeffersonville the second Tuesday in April, 1895.

Eastern Kansas Medical Society held its fall meeting in Kansas City, October 9. There were sixty in attendance. The following papers were read: "Fractures of the Base of the Radus," Dr. George M. Gray, Kansas City, Kan.; "A Muscular Spasm," Dr. W. S. Lindsay, Topeka; "Ophthalmia Neonatorum," Dr. J. W. May, Kansas City, Kan; "The Place of Education in the Treatment of Diseases of Women," Dr. Frances Storrs, Topeka; "Report of a Case," Dr. A. P. Tenney, Kansas City, Kan. The next meeting will be held in Topeka in January. The officers of the Society are: Dr. R. E. McVey of Topeka, President; Dr. George M. Gray of Kansas City, Kan., Vice-President; Dr. R. S. Magee of Topeka, Secretary, and Dr. Ida C. Barnes of Topeka, Treasurer.

West Virginia State Association.—The West Virginia State Association of Railway Surgeons held its second annual meeting in Grafton, October 5. Dr. R. W. Hall, of Moundsville, was re-elected President for the ensuing year; Dr. A. H. Thayer, of Grafton, was elected Vice-President; Dr. J. F. Reger of Littleton, Secretary; Dr. W. F. Vankirk, of Grafton, Treasurer, and Dr. W. M. Sivey, of Tunnelton, member of the Executive Committee for three years. The Committee on Transportation consists of Drs. A. H. Thayer, chairman; R. W. Hall and J. F. Reger. The dues were fixed at $1 per year. The next meeting will be on the first Thursday in October, 1895.

Railway Surgeons.—The first annual meeting of the Iowa Association of Railway Surgeons was held at Sioux City October 10.

Dr. J. N. Warren was chosen temporary chairman and J. D. McCrae, Jr., of Council Bluffs temporary secretary. The Association was permanently organized with the following officers: President, J. N. Warren, Sioux City; Vice-President, J. W. Philpott, Fort Madison; Secretary, Donald McCrae, Jr., Council Bluffs; Treasurer, J. M. Knot, Sioux City. Judiciary Committee, G. W. Coit, Missouri Valley; C. C. Bronley, Manchester; Dr. Adair, Anamosa. Papers were read by Dr. J. N. Warren, of Sioux City, on "Spinal Injuries;" "Anesthetics," Dr. A. C. Bergen of Sioux City; "The Hot Water Fad," Dr. A. M. Vail, of Rock Rapids; "Compound Fractures," Dr. Donald McCrae, of Council Bluffs.

The Wyoming County (N. Y.) Medical Association held a meeting in Attica, October 9. The meeting was called to order by the President, Dr. M. J. Wilson, of Warsaw, after which the proceedings of the last meeting were read by the Secretary, Dr. A. B. Straight, of Perry. The first paper was read by Dr. A. G. Ellinwood, of Attica, subject, "Thrombosis and Emblotism;" followed by Dr. Frank R. Barross, of Attica, upon "Practical Points on the Elbow Joint." Dr. Burbank, of Pavilion, presented an interesting paper upon "Quacks and Quackery," and Dr. C. R. Seeley, of Attica, gave a paper upon "Notes of Cases in Practice." An illustration of the value of "Antiseptics" was given by Dr. Stanton, of Varysburg, followed by an interesting article on "Peritonitis" by Dr. Hulette, of Arcade. Dr. M. J. Wilson, of Warsaw, closed the afternoon session by opening a discussion upon "Professional Work From a Business Standpoint." Among those in attendance were Dr. G. H. Peddle, Wethersfield Springs; Miss J. W. Finley, M.D., Castile; Dr. William Stanton, Varysburg; Dr. Fisher, of Arcade, Vice-President of the organization; Dr. Z. L. Stage, of Bliss; Dr. Parker Davis, of Darien. Among the new names presented to the organization for membership were Drs. Z. L. Stage, C. R. Seeley and Parker Davis. Upon motion of those present Dr. Frank F. Ellinwood, of Attica, and Syracuse, was made an honorary member of the Association. A banquet was served at the Edwards Hotel.

Vermont State Medical Society.—The annual meeting was held in Montpelier October 11 and 12. The following officers were elected: President, J. H. Linsley, Burlington; Vice-President, F. F. Chaffee, Strafford; Secretary, D. C. Hawley, Burlington; Executive Committee: J. H. Linsley, D. C. Hawley, and F. R. Stoddard (of Shelburne). Publication Committee: D. C. Hawley, J. B. Wheeler and H. C. Tinkham. License Censors: E. S. Albee, C. M. Ferrin and H. S. Brown. The attendance was the largest in the history of the Society. Dr. Frederic C. Shattuck, of Boston, read a valuable paper on "The Modern Treatment of Typhoid Fever," and Dr. John C. Irish, of Lowell, Mass., presented one on the "Surgical Treatment of Uterine Neoplasms." The annual banquet was spread at the Pavilion Hotel at 10

P.M. Thursday and was enjoyed by about 150, including the members of the Society, the Governor of the State, V. A. Woodbury, of Burlington, also the Speaker of the House of Representatives and other officers of the Legislature. The Anniversary Chairman was Dr. A. P. Grinnell, of Burlington. The next annual meeting will be held in Burlington.

American Academy of Railway Surgeons.—The first meeting of the American Academy of Railway Surgeons will be held in the parlors of the Grand Pacific Hotel, Chicago, Nov. 9 and 10, 1894.

First session, executive, Friday, 9 A.M. Only charter members of the Academy admitted.

Call to order, by Chairman, Committee on Permanent Organization; election of temporary chairman; election of temporary secretary; roll-call of charter members; appointment of Committee on Constitution and By-Laws.

The Objects and Aims of the American Academy of Railway Surgery, by C. K. Cole, Chief Surgeon Montana Central Railway, Helena, Mont.; Reasons for the Organization of the Academy, by W. J. Galbraith, Chief Surgeon Union Pacific Railway, Omaha, Neb.; A Symposium on Permanent Organization, by R. Harvey Reed, Consulting Surgeon Baltimore & Ohio Railway, Columbus, Ohio; Opening of the discussion on these papers, by W. H. Elliott, Chief Surgeon Central Railway of Georgia, Savannah, Ga. Miscellaneous business. Adjournment.

Second session, open, Friday, 2 P.M. Nothing but scientific business transacted, and open to all interested.

1. Injuries of the Tendons in Railway Accidents.

(*a*) History and Symptoms, by J. B. Murphy, Chief Surgeon Wisconsin Central Railway, Chicago, Ill. Discussion opened by W. A. Adams, Chief Surgeon D. T. & Ft. W. Railway, Fort Worth, Texas.

(*b*) Diagnosis and Prognosis, by W. D. Middleton, Chief Surgeon C. R. I. & P. Railway, Davenport, Iowa. Discussion opened by Brise L. Riordan, Surgeon G. T. Railway, Toronto, Canada.

(*c*) Treatment, by Geo. W. Hogeboom, Chief Surgeon A. T. & S. F. Railway, Topeka, Kan. Discussion opened by Solon Marks, Chief Surgeon C. M. & St. P. Railway, Milwaukee, Wis.

2. Traumatic Neuritis.

(*a*) History, Symptoms and Differential Diagnosis, by A. P. Grinnell, Chief Surgeon Central Vermont Railway, Burlington, Vt. Discussion opened by Chas. H. Merz, Surgeon L. E. & W. Railway, Sandusky, Ohio.

(*b*) Prognosis and Treatment, by E. A. McGannon, Surgeon G. T. Railway, Brockville, Ontario, Canada. Discussion opened by J. H. Ford, Chief Surgeon C. C. C. & St. L. Railway, Wabash, Ind.

3. Treatment of Traumatic Aneurism, by G. S. Worley, Chief Surgeon J. St. A. & I. R. Railway, St. Augustine, Fla. Discussion opened by N. Y. Leet, Chief Surgeon D. L. & W. Railway, Scranton, Pa.

Adjournment.

Third session, executive, Friday, 8 P.M. Only charter members of the Academy admitted.

Report of committee on constitution and by-laws; appointment of committee on nominations; miscellaneous business.

Adjournment.

Fourth session, open, Saturday, 9 A.M. Nothing but scientific business transacted, and open to all interested.

1. Should a Railway Surgeon be Required to Procure a History as to the Cause of an Accident over the Signature of the Injured?

(*a*) Reasons Favoring such Report, by S. L. McCurdy, Surgeon P. C. C. & St. L. Railway, Pittsburg, Pa. Discussion opened by R. W. Bruce Smith, Surgeon G.T. Railway, Seaforth, Canada.

(*b*) Reasons Opposing such Report, by Geo. Chaffee, Surgeon L. I. Railway, Brooklyn, N. Y. Discussion opened by J. M. Dinnen, Chief Surgeon N. Y. C. & St. L. Railway, Fort Wayne, Ind.

2. The Best Method for Approximately Determining the Amount of Damage Sustained by a Traumatism from a Monetary Standpoint, by R. S. Harnden, Surgeon N. Y., L. E. & W. Railway, Waverly, N. Y. Discussion opened by John E. Owens, Chief Surgeon C. & N. W. Railway, Chicago, Ill.

3. The Best Methods for Determining the Value of Life when Death has been Caused by Accidental Means, by M. Cavana, Surgeon N. Y., O. & W. Railway, Oneida, N. Y. Discussion opened by A. D. Bevan, Chief Surgeon Iowa Central Railway, Chicago, Ill.

4. The Environments of Railway Surgery, by B. Merrill Ricketts, Chief Surgeon C. P. & V. Railway, Cincinnati, Ohio. Discussion opened by C. B. Kibler, Surgeon N. Y., L. E. & W. Railway, Corry, Pa.

5. The Use of Horse Hair in Surgery, by C. M. Daniels, Chief Surgeon W. N. Y. & P. Railway, Buffalo, N. Y. Discussion opened by A. C. Scott, Chief Surgeon G. C. & S. F. Railway, Temple, Texas.

Adjournment.

Fifth session, open, Saturday, 2 P.M. Nothing but scientific business transacted, and open to all interested.

1. Not a Case of "Railway Spine," by Webb J. Kelly, Surgeon C. C. C. & St. L. Railway, Galion, Ohio. Discussion opened by W. B. Rogers, Chief Surgeon K. C. & M. B. Railway, Memphis, Tenn.

2. Comparative Value of Plaster of Paris and Silicate of Soda as a Dressing for Fractures, by Milton Jay, Chief Surgeon C. & E. I. Railway, Chicago, Ill. Discussion opened by C. B. Parker, Surgeon L. S. & M. S. Railway, Cleveland, Ohio.

3. The Treatment of Burns of the Conjunctiva, by D. C. Bryant, Oculist, Union Pacific Railway, Omaha, Neb. Discussion opened by Wm. Thompson, Oculist Penna. Railway, Philadelphia, Pa., and J. A. White, Consulting Oculist S. Railway Co., Richmond, Va.

4. Traumatism of Joints, by R. H. Cowan, Surgeon N. & W. Railway, Radford, Va. Discussion opened by C. B. Powell, Surgeon C. B. & Q. Railway, Albia, Iowa.

5. Collodion in Solutions of the Continuity of the Soft Parts, by N. A. Drake, Surgeon C. R. I. & P. Railway, Kansas City, Mo. Discussion opened by Chas. B. Fry, Surgeon Big Four Railway, Mattoon, Ill.

Adjournment.

Sixth session, executive, Saturday, 8 P.M. Only charter members of the Academy admitted.

Report of the committee on nominations; election of officers; selection of next place of meeting; miscellaneous business; adjournment to the banquet hall; banquet.

Adjournment.

TRASPORTATION.

The managers of the various railroads have very cordially agreed to furnish the necessary transportation to enable the members of the Academy to attend the coming meeting. Those who need transportation will apply for the same at once through their proper officers.

NECROLOGY.

OMER T. GILLETT, M.D., of Evansville, Ind., at Colorado Springs October 5——G. A. Muller, M.D., at Menasha, Wis., October 5, aged 40.——A. B. Dobson, M.D., formerly of Iowa, at San Jose, Cal., October 1, aged 61. He was a Surgeon of Volunteers, during the civil war.——Benton J. Holm, M.D., of Bloomington, Mo., October 6.—D. B. Hill, M.D., of Lock Springs, Mo., September 30, aged 73.——B. J. Howe, M.D., of Bedford, Ind., October 6.——James Goodier, M.D., of Monroe County, Mo.——William H. Brooks, M.D., of Fort Wayne, Ind., October 13, aged 83 years——D. C. Wilson, M.D., of Painesville, Ohio, September 26, aged 56 years.——G. W. Moody, M.D., of Huron, S. D., October 13. He was one of Dakota's earliest settlers and was President of the Territorial Board of Health. He had been surgeon for the Chicago and Northwestern Railway in Dakota for fourteen years. ——Reid Alexander, of Topeka, Kan., October 8, aged 34 years.

MISCELLANY.

Change of Address.—L. W. Steinbach, M.D., has removed to 1309 N. Broad Street, Philadelphia.

For the Legislature.—J. H. Brownfield, M.D., of Fairmount, W. Va., has been nominated for the Legislature. The *West Virginian* says: "Dr. Brownfield's nomination was apparently demanded by everybody, and was enthusiastically received."

Foreign Body in the Bronchus.—Oneida County (N. Y.) Medical Society closed its semi-annual session October 9. Dr. Brownell, of Utica, reported a case of foreign body in the bronchus in the case of a boy 4 years of age. The boy was suspended by the ankles every few minutes during the night, and at 4 A.M., the foreign body (apparently corn husks) was coughed out. The child made a prompt recovery.

Injections of Blood-Serum in the Treatment of Diphtheria.—The experiments that have been made in Vienna, at the Children's Hospital, show that the injections of blood-serum have been followed by many successes. Children whose cases have been regarded as hopeless of recovery under the usual treatments, have been found to recover under this new treatment in the proportion of three recoveries to one death.

Appointments.—Dr. Dalby has been appointed Health Commissioner of Salt Lake to succeed Dr. Beatty.——H. J. Neely, M.D., has been appointed postmaster of Brush Creek, Pa. ——E. R. Hardenbrook, M.D., of Buffalo, N.Y., has been appointed house surgeon of the New York State Industrial School at Rochester.——E. C. Jacobs, M.D., of Milwaukee, has been appointed assistant physician at the Northern Hospital for the Insane at Oshkosh, Wis.

On the Administration of Chloral to Young Children.—Dr. J. C. Wilson places much reliance on the soothing influence of chloral hydrate over the irritations of scarlet fever. As a rule, the drug is easy of administration and well borne by the stomach. I have found its acrid after taste best masked by the administration in Aubergier's syrup of lactucarium diluted, thus:

℞. Chloralis . . . . . gr. xxx.
Syrup, lactucarii (Aubergier) } āā ℥jss.—M.
Aquæ . . . . . }

Sig.: A teaspoonful in iced water every two, three or four hours.

The administration of nourishment immediately after the medicine is desirable. The sleep-inducing properties of the drug manifest themselves rapidly, but are not prolonged; therefore, its repetition at intervals of two or three hours is called for.

Bequest for Autopsies.—Professor Verga, of Milan, describes a curious institution in that city, somewhat resembling the Society for Mutual Autopsies in Paris. It is a bequest made to the city authorities in 1881, by P. M. Loria, a citizen of Milan, to defray the expenses of autopsies for poor families, the survivors of which wish to ascertain the true causes of death and the weaknesses and organic degenerations which menace their descendants. M. Loria also hoped that these autopsies would remove one of the principal obstacles to cremation, by proving that death was due to natural causes. During the last year thirty-two autopsies were made by Professor Verga—twenty-two males and ten females; two-thirds of these were of persons over 60 years of age. The conditions of the bequest provide that any specimens remarkable from a pathologic or anthropologic standpoint shall be preserved—the former in the hospital museum, the latter in the civic museum.

Dr. Robinson Wins a Suit.—Dr. Robinson has been buying tickets and refusing to pay an extra fare between Alameda and Oakland for years. His suits have been innumerable and always ask for $200 and costs.

He contended for the right to buy stop-over tickets between San Francisco and Alameda by which he could stop at Oakland and afterward go on to Alameda. Superior Judge Hunt of San Francisco gave judgment in favor of Robinson, and the Supreme Court sustains it. This will probably settle the matter and give the Doctor a goodly sum. A. Bretz, the Populist candidate for the Assembly, has not been idle during this time, but has evidence that will net him about $1,500 or $2,000 in like suits. When the Seventh Street locals commenced collecting fares, Dr. Robinson made several vain attempts to ride without a ticket, and now he will undoubtedly take a turn at that case. The decision is of the utmost importance to all Oakland and Alameda people. Dr. Robinson thought that the decision might affect the standing of the State Railroad Commission, but it did not, according to the report given to the press.

Semeiotics in Fiction.—Dr. A. Conan Doyle, the famous novelist, who is visiting this country to enjoy the plaudits of a contemporaneous posterity, has achieved his success by use of the qualities which make the successful physician or surgeon. A master of semeiotics—the science of signs or symptoms, *medicé*, symptomatology—he created the character of "Sherlock Holmes," the ideal detective, and endowed the creation with the skill and penetration in interpreting the endless significance of small details which made his preceptor, Dr. Joseph Bell, of the Edinburgh University an object of wondering admiration to his students. Conan Doyle was especially struck with this faculty of Dr. Bell's and with the seemingly marvelous insight into his patients, the result of circumstantial evidence built up on little details usually considered insignificant or entirely overlooked. This, Dr. Bell was wont to impress upon his students as the foundation of diagnosis, and Dr. Doyle, who proved himself an apt pupil, has turned it to good account in his works of fiction—works which have very probably contributed more to "the gayety of nations" than his skill as a physician could have done.

Dangerous Sting of the Conorhinus.—In *Insect Life* for September, a California correspondent of Professor Riley states briefly his personal experience with a sting or bite of a conenose (*Conorhinus*). This writer was stung in the night time while he was in bed, upon the middle toe of his left foot. He first gently rubbed saliva over the toes in order to possibly ease the itching sensation, but this continued and gradually spread over the foot and thence upward. The instep, legs, thighs and loins, where large flat blotches were raised were affected. It finally extended further up the hands and arms; his lips swelled; his neck, nose and eyebrows itched and swelled on scratching, and his scalp was a mass of lumps from the same cause. He stood this as long as he could and then went out to a water ditch and soaped and bathed his body in cold melted snow-water, and applied some bacon grease thoroughly. A little later he became sick at his stomach and took a strong cup of coffee. About 6 o'clock in the morning the itching abated, but the swelling remained on his hand and foot until the next day. In a later letter the writer states that he has noticed that the *Conorhinus* is attracted by carrion, and he explains a large number of the poisonous effects of the bite by the mechanical conveyance of putrid animal matter to the wound made by the beak of the insect.

Faith Curists may be Held for Trial in New Jersey.—A Mrs. Glenn, of Palmyra, New Jersey, whose patient died while under a faith-cure treatment, will be tried under a law passed by the last session of the Legislature. The patient was a woman, aged 17 years, who had had pulmonary tuberculosis for some time. The claim was made by Mrs. Glenn that by abandoning the use of medicines, and by a reliance on the faith healing methods, she had been able "to put a new lung into a patient who had been given up to die by Dr. Pepper." But the poor deluded patient grew progressively worse and died. This was followed by a condemnatory verdict by a coroner's jury and the arrest of the illegal practitioner. This is the first case under the new law. The New York *Herald* reports the following interview with Dr. Watson of Jersey City:

"Dr. W. Perry Watson, of Jersey City who is Secretary of the State Board of Medical Examiners and who drafted the General Medical bill which is now a law, said in reply to an inquiry: 'The medical law is working well and I fail to find any of the faith curists and mind healers who were beginning to operate quite extensively in this State. In Jersey City those whom I did know have quietly taken down their

signs and gone over to New York. The law has worked well in preventing the fraudulent practitioners from operating here, and particularly those who came over the river. The State Board will prosecute them wherever they are found."

An Army Promotion Board.—A board of officers consisting of Lieutenant-Colonel Charles R. Greenleaf and Johnson V. D. Middleton, Deputy Surgeon-General, and Captain William L. Kneedler, Assistant Surgeon, has been appointed to meet at San Francisco, Cal., for the examination of certain army medical officers with a view to determine their fitness for promotion to the grade of Captain. The officers ordered before the board are First Lieutenants Charles Willcox, Harlan E. McVay and Euclid B. Frick. These examinations are a recent requirement of the War Department. Formerly a lieutenant and assistant surgeon became entitled to the relative rank, pay and emoluments of a captain of cavalry by virtue of the expiring of his fifth year of service. Now, he, like all other officers of the staff or line below a certain grade, has to pass an examination to demonstrate his fitness physically and professionally to perform the duties of the higher grade. Examination is first made into the physical condition, and if this is found defective the board immediately concludes its inquiry in the case by finding and reporting the cause which in its judgment has produced the disability and whether the disability was contracted in the line of duty. The professional examination covers army regulations, customs of service and methods of the medical department; Hospital Corps administration and drill; hospital management; camp, post and hospital sanitation; and such professional subjects as have been developed by new views, experiments, operations, observations, etc., during the five years of the young officer's lieutenancy.

Status and Pay of Japanese Army Surgeons.—The Surgeon-General of the Imperial Army has the rank of major-general and the same amount of salary, 300 yen per month, the yen being equivalent to about 75 cents of our money. Surgeon inspectors, whose position is analogous to that of colonel and assistant surgeon-general in the U. S. Army, have the rank of colonel and a salary of 193 yen per month, or 3 yen more than a colonel of cavalry receives, and 15 more than a colonel of infantry. Surgeons of the first class rank as lieutenant-colonel and their pay, 143 yen, bears the same relation to that of a regimental lieutenant-colonel that the pay of an inspector does to that of regimental commanders. Surgeons of the second class with the rank of major draw 93 yen monthly. Assistant surgeons of the first class and pharmacists of the same grade have 52 yen or the pay of a captain. Assistants and pharmacists of the second class rank as first lieutenants and have the pay of that grade, 32 yen. Assistants and pharmacists of the third class have the rank and pay, 26 yen, of the second lieutenant. These medical, like other officers of the army, have increased pay when assigned to special duty; those on duty in the War Department, for instance, having an increase amounting to about one-third of the regular salary of their grade. They have, in addition, certain emoluments such as are given to officers in the army of the United States as increased pay for length of service, commutation of quarters, etc., and a retired pay or pension when unfit for service by disability from accident, disease or age. The Hospital Corps of the U. S. Army has only three grades: private, acting hospital steward and hospital steward; but the Japanese have better facilities for discriminating between good and indifferent men. The infirmary sergeant-major has 6.950 yen per month, the sergeant 5.019, the corporal 3.680, the private of the first class 1.612 and the private of the second class 1.369, with clothing and other allowances and increased pay for second and subsequent enlistments, as provided for troops of the line.

New Ruling by the Illinois State Board of Health.—From the following communication in which names are omitted from the original, it will be seen that the Illinois State Board of Health will not recognize Dental, Pharmacy or Veterinary Colleges as entitled to recognition for *any part* of a medical college course:

CHICAGO, Oct. 7, 1894.

Last Saturday a graduate in veterinary science who has never attended a medical college hitherto, called on me, professedly on your suggestion, to inquire whether he could legally graduate from your College at the end of one course of lectures. I turned to page 21 of the Fifteenth Annual Report of the State Board of Health and read to him from the minutes of the January meeting, 1892, as follows:

"*Veterinary Colleges not Recognized.*—The Secretary presented a communication from the clerk of the ——– Medical College, with an inclosure indorsed by——, asking for a ruling" etc., etc., and in answer to this communication, it was

"*Resolved*, That . . . . . the Illinois State Board of Health declines to recognize the degree of Doctor in Veterinary Science as the equivalent of any part of the minimum requirements fixed by the Board as characterizing a medical college in good standing, etc."

I infer that you had overlooked or forgotten this ruling and, as I have some reason to think you are not familiar with a more recent ruling of similar import and wider application, I make free to quote from page 19 of the Sixteenth Annual Report:

"*Resolved*, That . . . . . the Illinois State Board of Health declines to recognize the degree of Ph.G., D.D.S., or V.S., as the equivalent of any part of the minimum requirements fixed by the Board as characterizing a medical college in good standing within the meaning and intent of the Illinois Medical Practice Act." . . . . .

"This Board does not recognize a licensed pharmacist as on a different plane from any other non-graduate in medicine."

"That as to 'persons holding certificates of examination,' the Board holds that they should establish the fact of four years of study and three full courses of lectures before being granted the degree of M.D."

I have the records and addresses of a number of students belonging to the categories referred to, whose applications for advanced standing in the —— College were rejected—in some instances, regretfully—on account of the foregoing rulings.

WM. E. QUINE, M.D.

The Defenses of Great Britain against Cholera.—The *Daily Graphic* of September 25 gives the British public a view of the official methods of protecting the United Kingdom against invasion by cholera. It speaks in glowing metaphorical terms of the medical officer of the Local Government Board, Dr. Thorne-Thorne, seated, as a general, in his room at Whitehall calmly noting on his maps the progress of the enemy, deliberately making preparations to meet and avoid its attack on Great Britain, and sending out his lieutenants and aids-de-camp to destroy the advanced scouts of the invading force, which, in spite of all vigilance, sometimes succeed in gaining an entrance at the seaports.

Information is first obtained by telegraph through the Foreign Office or from the British Consuls abroad that an infected or suspected ship has left an infected port. Directly the vessel arrives at a British port it is boarded by the port medical officer of health. All the cholera cases are at once taken off the ship and placed in hospital, and further, all suspected cases are detained forty-eight hours in order that it may be seen if they develop cholera. The rest of the passengers are allowed to depart after they have given their names and the addresses to which they are going. The medical officer of health of the town or district named is then notified that such a person will arrive, and on arrival he visits him and keeps him under surveillance until all danger is past. If the suspect sicken of cholera, or even of diarrhea, he is at once isolated, his clothes are burned, all discharges are disinfected, the drains, etc., of the house flushed with disinfectants and precautions taken to avoid infection of the water supply. In this way each case of cholera all over the country is detected and watched, and the spread of

the disease arrested from the outset. Thirty-five cases of cholera were imported into England in 1892 during the period that Hamburg suffered so severely; and of these six occurred among persons who had left the seaport of arrival in a condition of apparent health; but owing to this system of surveillance the exact whereabouts of each was known, the disease treated and its spread arrested without delay. This was the history of cholera in England in 1892. Since then the medical inspectors of the Cholera Survey have been engaged in visiting the ports all round the coast and those inland towns where a heavy enteric fever mortality gave an indication that they might be suitable places for breeding cholera, owing to their various sanitary neglects; in fact, all places where the water supply was subject to pollution. This work has been done quietly and without publicity—perhaps too much so; the corporations or sanitary authorities meet the medical inspectors; the faults of imperfect sanitation are pointed out to them and they are advised how to provide the available remedies so as to make the population of whose health they have charge safe against the invasion of cholera.

From the point of view of this great improvement in local and general sanitation the *Graphic* speaks of "that blessed word cholera. Cholera scares have been, in fact, blessings in disguise, and have done more than anything else to improve the health conditions of this country." Much credit is given to the medical officers connected with this service. Their work is characterized as truly admirable. "It demonstrates once more, if any such further demonstration is needed, how great are the services quietly and devotedly rendered by medical men, not only in the cure, but also in the prevention of disease. The port medical officers have time and again spent days and nights on the water, sleeping on board ship so as to be ready at a moment's notice, regardless alike of personal risk and individual comfort. The really heavy work has fallen, to a great extent, on them, and no one acknowledges their distinguished services more emphatically and enthusiastically than Dr. Thorne-Thorne himself, who loses no opportunity of doing justice to them. The medical inspectors of the Local Government Board have also been incessantly on the alert, traveling by night and working by day, and although the cholera scare has temporarily passed away their vigilance is not relaxed and the Sanitary Survey is still going on." The health officers of London, Newcastle-on-Tyne and Hull, Drs. Collingridge, Armstrong and Mason, are specially mentioned in the article for their earnest and valuable services.

Hospital Notes.

The Augustana Hospital of Chicago is to issue an edition of 10,000 circular catalogues.——The Children's Hospital of Buffalo, N. Y., held its annual meeting December 9. The old officers were reëlected.——A meeting was held in Sangerbund Hall, Brooklyn, to organize a German Hospital, October 8.——Dr. E. E. Montgomery, after fifteen years' service in the Philadelphia Hospital, resigned and his place was filled by the election of J. M. Fisher, M.D., who is an instructor in gynecology at Jefferson Medical College.——The New York Foundling Hospital celebrated its silver jubilee October 17. Since its foundation it has received 25,697 infants and 5,000 needy mothers; out-door employment has been given to more than eleven hundred nurses and $3,000,000 has been paid them.——Francis B. Keene, of Milwaukee, has donated to the Episcopal Diocese of that city the Keene homestead to be used for a hospital. It will be known as the Keene Memorial Hospital, the donation being made in memory of his father, the late Dr. Keene.——The new Consumptive Hospital, established by several New York women, will soon be ready to receive patients. The Hospital is founded for the reception of consumptives, working girls, that they may receive treatment without the loss of time from their daily labor.

Washington Notes.

Medical Society of the District.—At the regular meeting of the Medical Society, Dr. Irving C. Rosse read a very elaborate and scientific paper entitled, "Some Medico-legal Features of the Schneider Case." He differs with the experts on insanity for the prosecution, taking the ground that the defendant was insane at the time of her execution. H gives the results of *post-mortem* examinations and criticises the ruling and charge of the presiding judge. Dr. W. K. Butler presented a large calculus from the tonsil of a young negro boy. Dr. Joseph C. Price, of Philadelphia, was invited to read a paper before the Society during the present month.

The Committee on Typhoid Fever presented its report as laid before Congress and published by the Public Printer. This is now a public document and as such will be distributed.

Central Dispensary and Emergency Hospital.—At the meeting of the Board of Directors on the 10th inst., Hon. John W. Foster, ex-Secretary of State, and Mr. John B. Wight, Secretary Washington Board of Trade, were elected to membership.

The Children's Hospital.—The annual report of the Children's Hospital was submitted to the Commissioners this week through Col. John Tracy, Superintendent of Charities. The income of the Hospital during the year amounted to $25,221. Of this amount $10,000 came from the government; $4,400 from the J. C. Hall fund; $1,300 from subscribers; $1,000 from the charity ball and $8,521 from contributions. The ordinary expenses of the Hospital amounted to $19,194; $5,000 was paid on the debt during the year, leaving a balance due of $22,000. Had it not been for the contributions there would have been a deficiency, which would have compelled the directors to limit the number of admissions so that there should be at no time more than forty white and forty negro children in the Hospital. An infant ward has been added with a limit of twelve infants. An appropriation of $15,000 is asked for the support of the Hospital during the next fiscal year. The number of patients treated during the year was 379, 41 of whom died. The dispensary patients numbered 3,051.

The Garfield Memorial Hospital.—A meeting of the Board of Trustees of the Hospital was held on the 9th inst., with the President, Mr. Justice Harlan, in the chair. Reports were read showing the operations of the Hospital during the previous year, and the rapid growth of the institution during that time. The demand for accommodations for patients has led to the opening of four wards since March of this year; these have filled as soon as ready, and there is still need of more room.

During 1893, 515 patients were treated in the Hospital. During nine months of 1894, from January to October, 573 were admitted. The cases treated come from nearly every State in the Union and from the city and county. Over sixty cases of typhoid fever alone were treated during the year, the larger number of these being admitted during July, August and September of this year. In one instance four members of one family suffering from typhoid fever were received and treated. One hundred and fifty surgical operations were performed during the past eight months.

So many applications were made to the Hospital for treatment by poor patients who were not ill enough to be admitted to the wards, that it was decided to begin a free dispensary service. This was opened July 12, 1894, and from that date to October 1, 403 cases have been treated.

The large central building erected for the administration and for the accommodation of the nurses has added greatly to the architectural beauty of the Hospital and to the comfort of the business management. The training school is also located here. The number of nurses on February 1 was fourteen; on October 1 twenty-seven. Regular instruction is given by a corps of lecturers and by the Superintendent of the school, Miss Nevins, during the winter and spring months, and after a two years' course of instruction the nurses receive a diploma. The Ladies' Aid Society has ren-

dered valuable service during the year. They have supplied thirty sets of bedroom furniture; twenty for the nurses' rooms and ten for ward C. They have also supplied linen for the wards, and curtains and awnings for the new buildings. The rooms of the Superintendent of the training school have been furnished throughout by Miss Edwards. The ladies have also in contemplation the erection of a new operating room, a building that is much desired on account of the inconveniences of the present room. A pathologie department has been established for the purpose of scientific study. It is proposed to establish at no distant date a nurses' directory and home in connection with the training school.

Medical Staff: Consulting Staff, Drs. William W. Johnston, President; Nathan S. Lincoln, James W. H. Lovejoy, Henry S. Yarrow.

Attending Staff: Drs. Geo. N. Acker, Samuel S. Adams, G. Wythe Cook, Henry D. Fry, Arthur A. Snyder, J. Ford Thompson. Drs. Swan M. Burnett, diseases of the eye and ear; Joseph H. Bryan, diseases of the throat and nose.

Chief Resident Physician, Dr. A. L. Stavely. First Assistant, Dr. Middleton S. Elliott.

Superintendent of the training school for nurses, Miss Georgia M. Nevins.

Ladies' Aid Association. Board of Managers: President, Mrs. John A. Logan; first Vice-President, Mrs. John M. Harlan; second Vice-President, Mrs. Julius C. Burrows; third Vice-President, Mrs. Henry A. Willard; fourth Vice-President, Mrs. David J. Brewer; fifth Vice-President, Mrs. Earl English; Corresponding Secretary, Mrs. Anderson D. Johnston; Recording Secretary, Mrs. J. Frank Aldrich; Treasurer, Mrs. Thomas L. Tulloch.

HEALTH OFFICERS' REPORT.—The reports of mortality received at the Health Department show a decrease in the number of deaths during the past week as compared with the previous week. The death rate fell from 22.9 to 21.7, and infant mortality declined from a total of fifty to that of forty of those under 5 years old. The four deaths from pneumonia present an early indication of the presence of this malady. There was a material decline in the number of deaths from diphtheria, and the week's reports show a remarkable absence of all the other dangerous contagious maladies.

THE PUBLIC SERVICE.

ENLISTMENTS IN THE ARMY HOSPITAL CORPS.

On October 2 the Surgeon-General of the Army issued a circular of information for persons desirous of entering the Hospital Corps of the Army. A number of vacancies occur from time to time in the various grades, which are filled in part by enlistment from civil life and in part by transfers of desirable men from the line. All enlistments are for the grade of private, but provision is made for the speedy promotion of those who show themselves to be in earnest, intelligent, capable and trustworthy. Not only does service in the Hospital Corps offer excellent pay, but it at the same time gives a training which will be of great usefulness should the member at any time return to civil life; if, however, he have promotion in view, it opens to him the most valuable position attainable by an enlisted man in the United States Army. Applicants for enlistment must be between the ages of 18 and 30 years, unmarried, of good character and habits, able-bodied, free from disease, and must be able to speak, read and write the English language. Such minor defects of vision as may be corrected by glasses are not regarded as a bar to enlistment. The pay is $18 per month for the first year, increased with subsequent years of service; but intelligent men look rather to promotion to Acting Stewardships and Stewardships open to them after one year's service as a private soldier. Those who have had special training in civil life as students of pharmacy or of training schools for nurses may not be required to serve the full year of probation. As the members of the Corps receive from the Government quarters, rations, clothing, bedding, etc., the monthly money allowance practically represents what remains of the wages of a man in civil life after the payment of the ordinary expenses of living, clothing, etc. The United States takes care of its soldiers in sickness, and continues their pay and allowances during that time. It also insures their lives and health, for if the former is lost because of disease or injury incident to the service dependent relatives will receive pensions, while on the other hand, if a soldier is permanently disabled he is entitled to pension, the amount depending on the extent of the disability. After thirty years' service the retired list of the Army is open to them with three-fourths of the pay of the grade held at the time of retirement. Applications for enlistment, accompanied by testimonials as to character, physical soundness, special knowledge (as of pharmacy, cookery, mechanics, etc.) should be addressed to "The Surgeon-General, U. S. Army, Washington, D. C." (who authorizes enlistments); or candidates may apply in person to any recruiting officer of the Army, or preferably to the medical officer at any military post or station.

Army Changes. Official list of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from Oct. 6, 1894, to Oct. 12, 1894.

Capt. GEORGE E. BUSHNELL, Asst. Surgeon, will be relieved from duty at David's Island, N. Y., by the commanding officer of that post, on the receipt by him of this order, and will then report in person to the commanding officer, Ft. Hamilton, N. Y., for duty at that post, reporting by letter to the commanding General, Department of the East. By direction of the Acting Secretary of War.

Capt. C. N. B. MACAULEY, Asst. Surgeon, extension of leave of absence granted in S. O. 55, Dept. of the Colorado, Sept. 14, 1894, is further extended one month. By direction of the Acting Secretary of War.

Major CURTIS E. MUNN, Surgeon, upon abandonment of Mount Vernon Bks., Ala., is ordered to Benicia Bks., Cal., relieving Capt. OGDEN RAFFERTY, Asst. Surgeon. Capt. RAFFERTY, on being relieved by Major MUNN, is ordered to Presidio of San Francisco, Cal., for duty.

First Lieut. CHARLES E. B. FLAGG, Asst. Surgeon, relieved from duty at Presidio of San Francisco, Cal., and ordered to Angel Island, Cal., for duty.

Major VAN BUREN HUBBARD, Surgeon, relieved from duty at Ft. Spokane, Washington, and ordered to Ft. McPherson, Ga., for duty at that station.

Major JAMES P. KIMBALL, Surgeon, upon abandonment of Ft. Marcy, N. M., is ordered to Ft. Wingate, N. M., for duty. Upon arrival of Major KIMBALL at Ft. Wingate, Capt. C. N. B. MACAULEY, Asst. Surgeon, will report in person at Ft. Apache, Ariz., for duty, relieving Lieut. M. W. IRELAND, Asst. Surgeon. Lieut. IRELAND, on thus being relieved, will take station at Ft. Stanton, N. M., relieving First Lieut. F. R. KEEFER, Asst. Surgeon. Lieut. KEEFER, on being relieved, will proceed to and take station at Washington Bks., D. C.

Major CURTIS E. PRICE, Surgeon, upon abandonment of Ft. Supply, O. T. will proceed to and take station at Ft. Sill, O. T.

First Lieut. ISAAC P. WARE, Asst. Surgeon, is relieved from duty at Ft. Supply, O. T., and ordered to Camp Eagle Pass, Texas, for duty. Upon arrival of Lieut. WARE at Camp Eagle Pass, First Lieut. ALEXANDER N. STARK, Asst. Surgeon, will return to his proper station at Ft. Sam Houston, Texas.

Capt. E. F. GARDNER, Asst. Surgeon, upon abandonment of Ft. Mackinac, Mich., is ordered to Boston, Mass., for duty as attending surgeon and examiner of recruits, relieving Major M. W. WOOD, Surgeon, who, on being thus relieved, will proceed to take station at Boise Bks., Idaho, to relieve Capt. WILLIAM STEPHENSON, Asst. Surgeon. Capt. STEPHENSON, on being relieved, will proceed to and take station at Vancouver Bks., Washington.

Major MARSHALL W. WOOD, Surgeon, is granted leave of absence for twenty-five days, to take effect upon his relief from duty at Boston, Mass. By direction of the Secretary of War.

Capt. FRANCIS J. IVES, Asst. Surgeon, having proceeded with troops to Ft. Ethan Allen, Vt., is relieved from further duty at Ft. Sheridan, Ill., and will remain on duty at Ft. Ethan Allen until the arrival there of Asst. Surgeon ADOLPH H. APPEL, Asst. Surgeon, when he will report in person to the commanding officer, Plattsburg Bks., N. Y., under the requirements of par. 10, S. O. 221, A. G. O., Sept. 20, 1894. By direction of the Secretary of War.

First Lieut. GEORGE B. DAVISON, Asst. Surgeon, upon arrival of Major JOSEPH K. CORSON, Surgeon, at Ft. D. A. Russell, Wyo., will be relieved, and ordered to Ft. Logan, Col., for duty.

Capt. ALFRED E. BRADLEY, Asst. Surgeon, upon abandonment of Ft. Sully, S. D., is ordered to Ft. Keogh, Mont., for duty.

First Lieut. HENRY A. SHAW, Asst. Surgeon, upon abandonment of Ft. McKinney, Wyo., is ordered to Ft. Niobrara, Neb., for duty.

Capt. JEFFERSON D. POINDEXTER, Asst. Surgeon, upon abandonment of Ft. Bowie, Ariz., is ordered to Ft. Riley, Kan., for duty.

LETTERS RECEIVED

Anderson, Olive, Andover, Ill.; Allbee, E. S., Bellows Falls, Vt.
Bennett, E. O., Eloise, Mich.; Battle & Co., St. Louis, Mo.; Baum, Mrs. F., Kansas City, Kan.
Connor, P. S., Cincinnati, Ohio; Cutter, J. A., New York, N. Y.; Chicago Policlinic, Chicago, Ill.; Chambers, J. H. & Co., St. Louis, Mo.; Caverly, C. S., Rutland, Vt.
Drevet Mfg. Co., (2), New York, N. Y.
Ewing, F. C., Bartels, La.
French, Pinckney, St. Louis, Mo.
Gibbons, Edmund B., Philadelphia, Pa.; Hummel, A. L., Philadelphia, Pa., (3); Hogan, S. M., Montgomery, Ala.; Hopkins, J. G., Thomasville, Ga.; Hooper, F. H., New Bedford, Mass.; Hollopeter, J. H., Houston, O. Haughton, R. E., Midland, Texas.
Jungbint, H. C., Tripoli, Iowa.
Kendig, E. V., Hayesville, Ohio; Kenyon, E. L., Chicago, Ill.
Lord & Thomas, Chicago, Ill.; Listol Chemical Co., Chicago, Ill.
Meller Drug Co., St. Louis, Mo.; Maxwell, Allison, Indianapolis, Ind.
New York Post-Graduate Medical School, New York City; Newman, H. P., Chicago, Ill.; Northwestern University, Chicago, Ill.; Nowlin, A., Hutto, Texas; Nichols, M. M., Hopeland, Cal.
Portman, A. E., White Oaks, New Mexico; Peck, George, Elizabeth, N. J.; Pautzer, H. O., Indianapolis, Ind.; Parmele, Chas. Roome, New York City.
Ruth, C. E., Keokuk, Iowa; Rhu, A., Marion, Ohio; Rownd, F. L., Dighton, Kan.
Sternberg, Geo. M., Washington, D. C.; Scollard, J. T., Milwaukee, Wis.; Sanders, Enno, St. Louis, Mo.; Schadle, J. E., St. Paul, Minn.; Snyder, H. L., Macungie, Pa.
Trimble, J. R., Baltimore, Md.; The Doliber-Goodale Co., Boston, Mass.
Vernon Geo. W., Morehouse, Mo.
Weer, H. H., Bluffton, Ind.; Weinbaugh, G. W., Fort Wayne, Ind., (2); Wyman, Walter, Washington, D. C.; Wilber, Geo. D., Denver, Col.; Welch, W. H., Baltimore, Md., (2); Wilkinson, Geo., Omaha, Neb.
Yoakum, F. E., Denver, Col.